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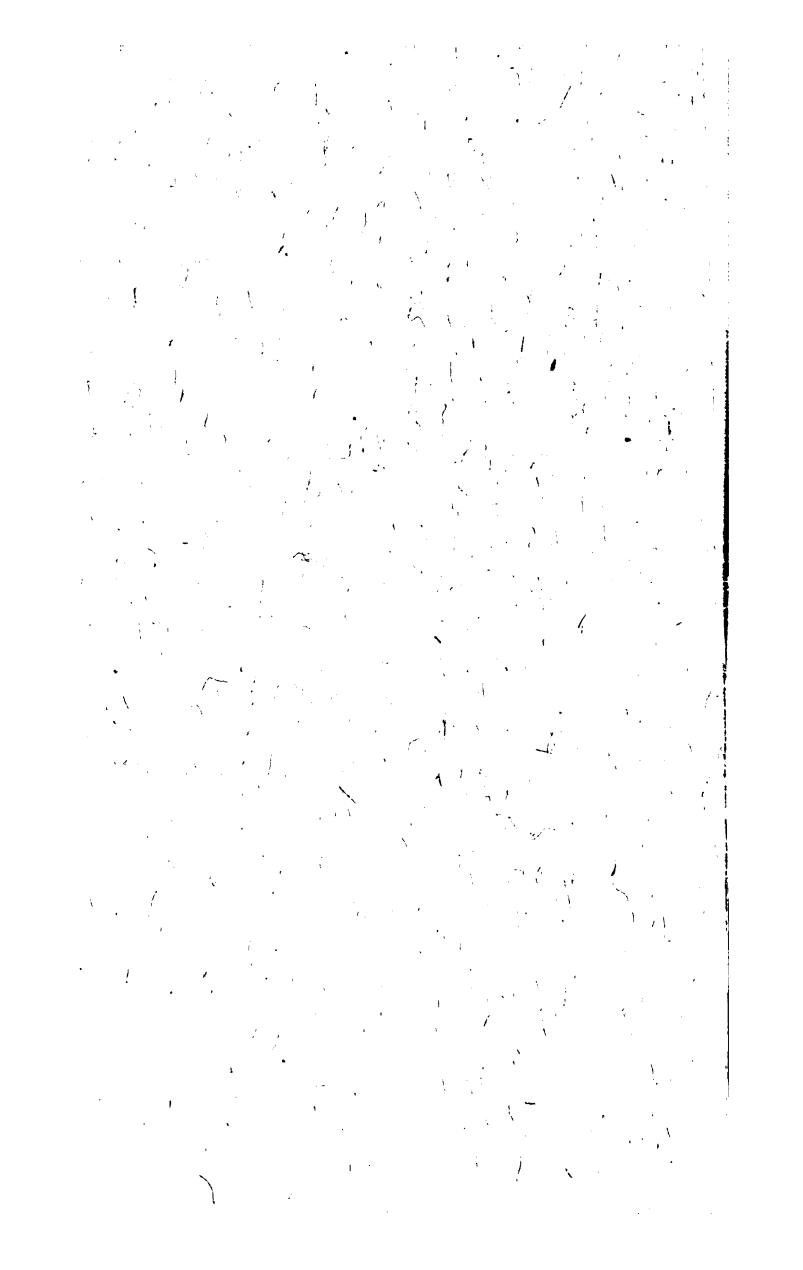
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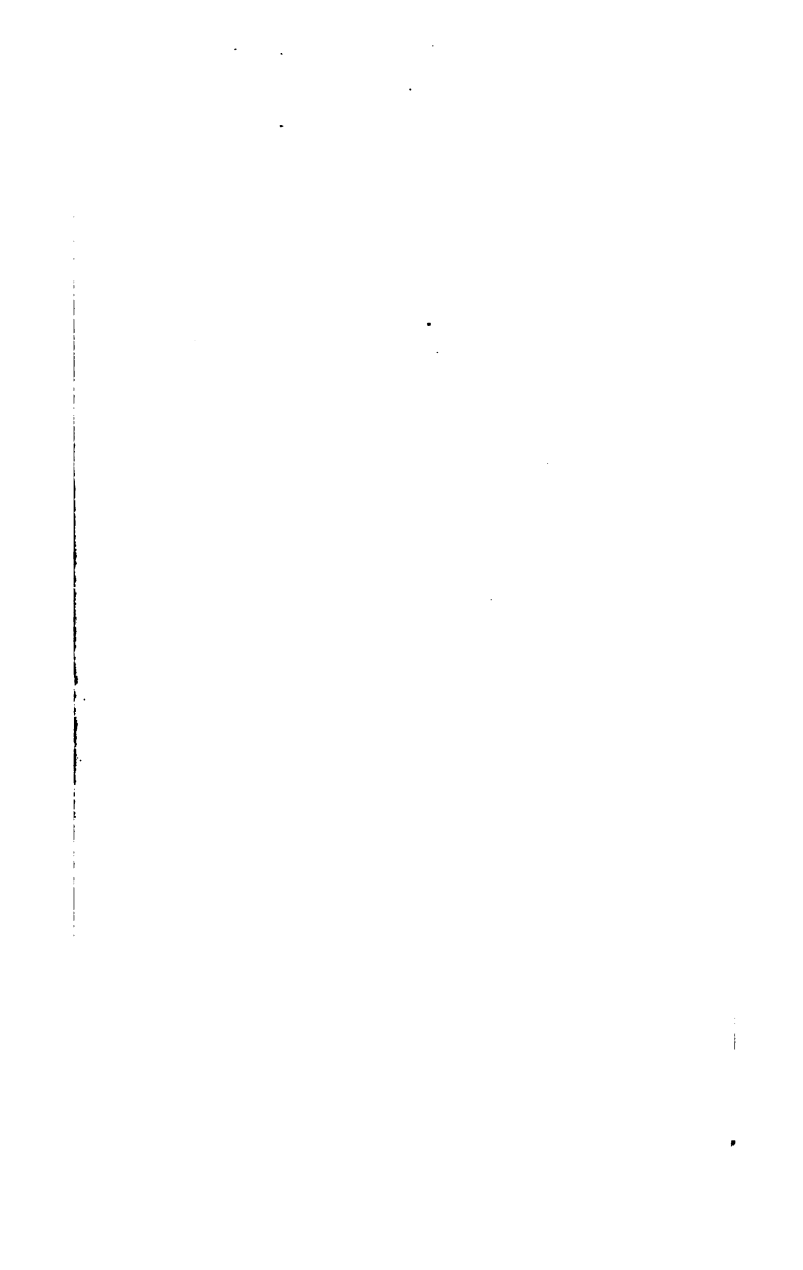
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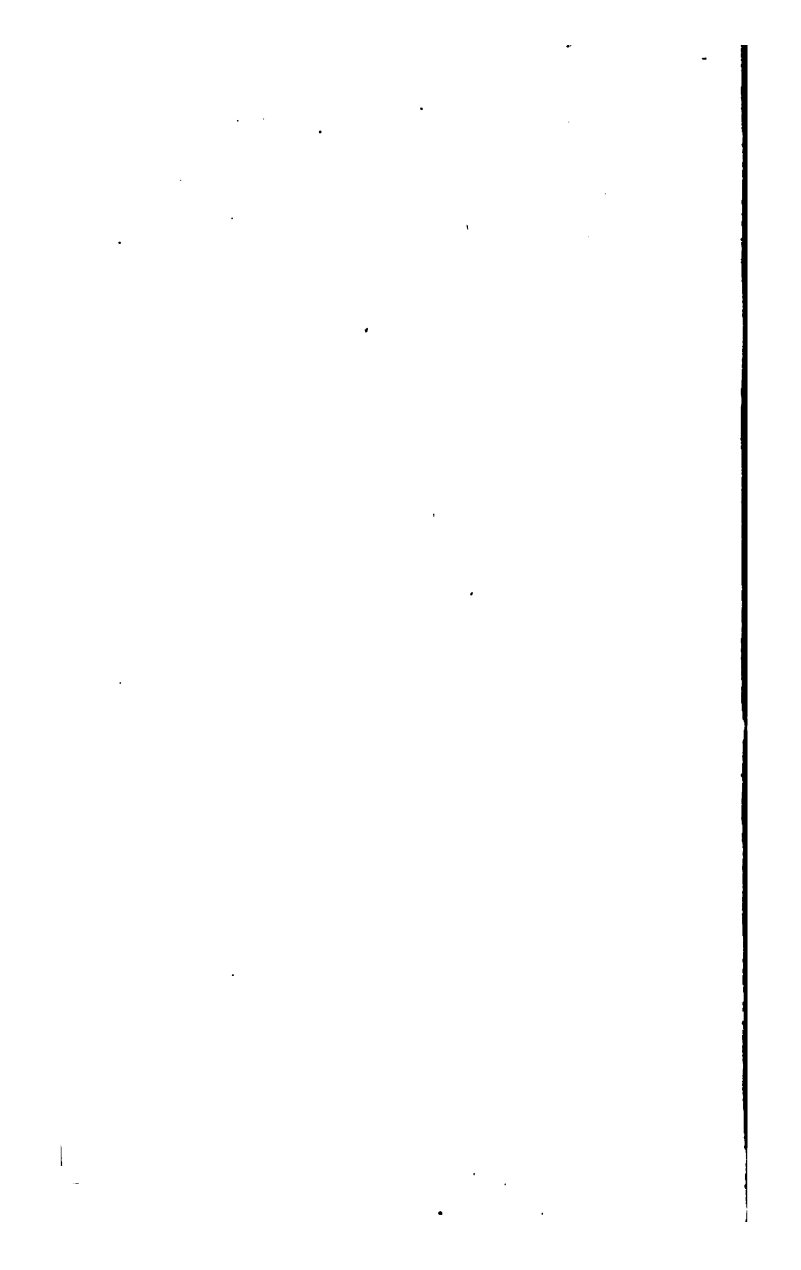
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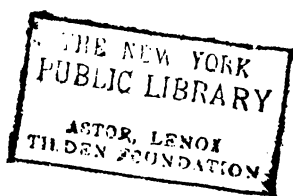
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THE HORSE.

CHAPTER I.

THE CHARACTER OF THE HORSE.

THE horse is now one of the most universally distributed animals, and everywhere he is recognized as the most useful amongst the quadruped servants of man, yielding in intelligence to the dog alone, and perhaps not to him; for, in those countries—some portions of Arabia, for instance—in which he is admitted to the full and unrestricted companionship of man, sharing his food with the family of his master, and, like them, a dweller in the tent, his sagacity far surpasses that of our stable-reared horses, however affectionately they may be treated. In the early ages of the world the horse seems to have been devoted to the purposes of war or pleasure, whilst the ox was the agricultural drudge. But the beauty, strength, and tractability of the horse have now connected him, directly or indirectly, with almost all the purposes of life. If he differ in different countries in form and size, it is from the influence of climate, food, and cultivation; but otherwise, from the war-horse, as he is depicted in the sculptures of ancient temples, to the stately charger of Holstein and of Spain, or from the fleet and beautiful Arabian to the diminutive Shetlander, there is an evident similarity of form and character which clearly stamps his common origin.

There are many important events which at the present crisis combine to render the breeding of horses a topic of stirring interest to numerous classes of Her Majesty's loyal subjects. It is a fact worthy of remark, that although the number of thorough-bred horses reared in the United Kingdom during the past year exceeds that of any other period, higher prices have been given for yearlings than on any previous occasion. As the thorough-bred horse is the source from which all the most valuable kinds are produced, not only for racing, but likewise for the pleasurable engagements of hunting, riding, driving, and services of utility, the true

position in which we stand as regards the production, the supply and demand of these useful and valuable animals, cannot, it is presumed, fail to attract attention and curiosity; and as this nation is unfortunately engaged in war, the sources from which our gallant troops can be mounted are considerations of no mean importance.

Various opinions have recently been expressed concerning our breed of horses. It has been gravely asserted, that the race-horses of the present day have degenerated when compared with their ancestors; that the customs of racing have, indeed, led to this degeneracy, and that they are calculated to increase it: moreover, that the supply of horses for purposes of utility is unequal to the demand. Theories have been promulgated, and suggestions advanced, as to the most effective means of correcting these alleged evils. One gentleman who has written on the subject, proposes to resort to the Arab blood to regenerate our racing stock, and recommends in connection with that plan the revival of races at long distances as tests of stoutness; assuming that such measures would promote a breed of horses adapted to the use of our cavalry. Another advocates the introduction of three-parts bred sires to produce horses for the military service. However well intended, as no doubt each of their propositions are, they are entirely opposed to improvement, or the attainment of the objects in contemplation. For the purpose of forming correct opinions, it is necessary to consider each subject separately; and as the thorough-bred sire is the only parent stock from which the other valuable kinds can be produced with success, some research into his origin, and the lineage by which the breed has been perpetuated, together with the agency—namely, racing—by which his reputation has been established, must necessarily form a portion of these observations. Comparing the performances of the ancient worthies with those of modern times, is the only means of deciding on the question of degeneracy. The expressions of opinions unaccompanied by illustrative examples afford but indefinite arguments. Racing has been the foster-mother of the high-bred courser, it is the test of his breeding, his speed, his power of endurance, his courage, and his stamina; and although it must be admitted there are many rules and customs connected with the turf which are open to objections, it must be remembered that the time has not arrived when human laws shall be perfect.

Our sheep, cattle, and other domesticated animals are also useful and valuable to us, and shame on him who can neglect

or abuse them. But in the horse—not perhaps to the same extent as in the dog, but still to a great extent—it is our own fault if we have not a friend as well as a servant. When well treated, he becomes sincerely and ardently attached to us; the utmost of his strength and speed is at our call, and he is never happier than when employed in our service. He even enters into many of our enjoyments with as great delight as we ourselves. See him following the hounds—there never was a rider who entered more thoroughly into the ardour of the chase than he does.

So great is the docility of the horse, that he is readily trained to occupations adverse to the natural gentleness of his nature. Those who have witnessed a battle, or even a sham fight, in which cavalry are engaged, must have been struck with the perfect identity of the horse and his rider—the former obeying implicitly the directions of the latter, and standing fire just as unflinchingly as does the soldier himself. With kind treatment, there is little within the comprehension of an animal which the horse is not capable of attaining; and no animal, not even the dog, more fully comprehends, or more readily masters, the lessons given to him. The astonishing feats of the horses of the circus are an additional exemplification of this, and their accomplishments are invariably the results of the anxiety of the docile animals to obey their teachers, who know their business too well to make use of any unnecessary harshness towards their pupils.

In many countries of modern times, wild horses have a material influence on the breed. The Cossacks take vast numbers on the desert tracts in the vicinity of the Don, and breed from them by crossing them with their domesticated horses, which are said to be much improved thereby. If this be correct, their domesticated horses must be very inferior animals. These herds are the offspring of the Russian horses used at the siege of Azof, when Peter the Great took it from the Turks. From want of provender, he was compelled to set nearly all his cavalry horses at liberty, and these have now become wild, associating in troops like other wild horses. Such of these horses as have remained on the lowlands near the river are of a large size, as is usual. Those which have penetrated to the mountain districts resemble the horses from which they sprang.

There is a great difference between the wild horse of Asia and that of South America. The former, unless taken young, can scarcely be tamed; the latter is remarkable for the readiness with which it becomes domesticated, and that thoroughly,

as we shall see when we speak of the Australian horse. It has been conjectured that this readiness to succumb to man's rule is the effect of climate; others, again, produce it as an instance of the improvement in the cerebral development of the South American horse, inherited from progenitors which have been domesticated for many centuries, and which is no doubt the correct inference.

In a wild as well as in a domesticated state the sympathy of horses for each other is great. In the thinly-inhabited portions of South America the custom in travelling is to catch a wild horse with the *lasso*, load him, and proceed a reasonable distance, till a fresh horse can be caught. If the traveller, on his unwilling steed, should fall in with a troop of wild horses, these will eagerly call to their burdened companion to shake off his load. He is not long in taking the hint; and in such cases nothing but plenty of nerve and strength on the part of the rider, accompanied with a free use of the spur, will prevent the animal from disengaging himself from his burden, and taking to his heels.

It would be easy to fill an entertaining volume with instances of the sagacity of the horse, were this the place for such considerations. His general character may be shortly summed up as possessing patience, willingness, fidelity, and friendship in the highest degree, especially attaching himself to man when well treated; but he will not, like the dog, preserve these qualities under ill-treatment, evidently taking it to heart, and becoming, in consequence, stupid, spiritless, and generally of little value. He who would ill-use this noble animal not only acts against his own interest, but degrades himself far below the condition of his victim. An unmerciful man to his horse should, by common consent, be a marked man. Any show of good qualities which such a man may pretend to is mere hypocrisy. Let all men shun him.

The horse is one of the most important acquisitions made by man from the animal kingdom. Without him civilization would have made little progress, and European nations would have been, even now, scarcely emerged from barbarism. Agriculture, commerce, our luxuries and pleasures, are alike indebted to this noble animal, whose form and sagacity would appear to have been adapted by Providence to the service of man; and such is his pliability of physical structure and constitution, that man may mould him to the form and bulk best fitted for the particular service in which he is to be employed, whether as the symmetrical racer, or as the heavy.



THE WILD HORSE.

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draught-horse which forms one of the most formidable obstructions in the overgorged thoroughfare of the metropolis.

The principal locality of wild horses exists in South America, where they herd in countless numbers in the plains extending from La Plata to Patagonia. These were originally introduced by the Spaniards, and have increased with incredible rapidity; so much so, that by some travellers their single troops are numbered by tens of thousands. The colour of the South American wild horse is generally chestnut, bay, sorrel, or black, and they are destined to exercise a great influence on the newly-sprung countries of the Pacific, into which they are chiefly introduced from the ports of Chili and Peru.

When the Spaniards first landed in Mexico, their horses were objects of wonder, and they impressed the inhabitants with the idea that horse and rider were one animal of the Centaur species.

The horse is eaten in some parts of South America, especially in the southern portions, and its flesh is esteemed a great delicacy. Horseflesh is amongst these people considered as necessary at the festive board, as is the sirloin of beef amongst ourselves; the less that is said, however, about their mode of preparing it for the table, the better.

FOREIGN BREEDS OF HORSES.

And first of these stands the Arabian—a vague term, as has been seen; the breed of horses being as diverse as the districts on which they have been reared. Generally speaking, we attach more value to these horses than they really possess. Arabia is the land of romance to Europeans, and its horses have lost nothing by romantic associations. With the exception of the head, the majority of Arabian horses would scarcely pass muster at Tattersall's—at any rate, not as first-rate horses. They are, for the most part, deficient in height, and very light in the body. Their powers of endurance are, however, great. We once experienced great pain in sitting behind four of them across the Egyptian desert, over which they took us in about fifteen hours, including of course long stoppages, as were requisite. We remonstrated with the driver that the horses were not changed, and the reply was, that there were none to change. He, however, asserted that they would be none the worse for it, and to judge by the appearance of the animals on reaching Cairo, we were of the same opinion. We scarcely think that an English horse of greater strength could have borne

up so well against the sands of the desert, though the track, till within a few miles of Cairo, was pretty good. On reaching the last station but one, we presented our steeds with a bottle each of Guinness's stout, which seemed to have a magical effect.

By far the most beautiful variety of the Arab horse is the Barb, as he is called from his having been brought to this country from Barbary, as vague a term as is Arabia, including the country between Tunis and Morocco. The Barb is, however, small, rarely exceeding fourteen hands, and is thus considerably less than the Bedouin horse of North and East Arabia. This breed of horses was introduced long ago into England; the celebrated Godolphin Arabian, so called, was supposed to be a Barb. It is to this breed that Spanish horses owe their fire and beauty, and most of our best English race-horses have the blood of the Barb in their veins. It is, however, remarkable that, considering the lavish expenditure on improving the breed of English horses, no attempts have been made to procure any of the *mares* of the highest Arabian stock. We appear to have placed the chief dependence on the Arab stallion, though it is well known to Oriental breeders that the mare is of by far the greater importance. Whoever attempts further to infuse Arab blood into the English horse should go to Muscat or its vicinity for his stock; and not, as is frequently done, to Egypt or the Barbary coast, where the horses are, for the most part, small. The author says that the Arabs will not part with any of their finest mares. This is, however, an error; there is little that an Arab will not part with for money, and though it is characteristic of the Arab, as of all other horse-breeding people, to be fond of his charge, yet the romantic tales of travellers respecting his attachment to his horse must not be altogether taken for granted. Travellers well know how to season their narratives with romance; they know also that public taste demands that they should do so, and the more especially with reference to the East. Either they are romancing, or we are very deficient in perception, having in our own experience found people in the East just as common-place as anywhere else, and, amongst the rest, the historically-magnanimous Arab to the full as mercenary as a Houndsditch Jew.

The Arab horse bears a high character for his docility and sagacity, and it would be strange if he did not possess both qualities. He is brought up in his owner's tent, and literally with his family. In the absence of any other amusement, the education of the foal is a primary object. He is in-

variably kindly treated, and soon acquires a desire to please his biped companions, and to take a pride in executing all they require of him. The constant companion of man, he soon learns to imitate man in every particular of which he is capable. Any horse placed in the same position would acquire the same qualities. It is said of the Arab horse that if its rider fall, and be too much injured to rise, the steed will stand still, and neigh till assistance arrives. If he lie down to sleep, his horse will watch over him, and rouse him at the approach of man or beast. Upon these desirable qualities anecdotes without number have been constructed.

The dry air and sands of Arabia are well adapted to produce muscular fibre, but no superfluous fat. The Arab is as lean as his steed, and the enduring power of both is wonderful. Fatigue, privations, and thirst, are the lot of both, and their country makes them what they are, *i.e.*, adapted to the climate. It has been well observed that good racers could no more be bred amongst marshes and bogs, than cart-horses in the deserts of Arabia: the former would be loaded with flesh and phlegm—the latter would melt and starve.

The skin of light-coloured Arabians is either pure black, or blueish-black, and this gives them the silvery-grey colour, so much esteemed. Bay and chestnut are common, and are considered good colours. Horses of a dark grey colour are not so much esteemed as runners.

But there are in fact many breeds of horses in Arabia. In Egypt alone they reckon five, the least of which can scarcely be classed above the rank of ponies, the hardiness and speed of which is surprising, though labouring under every possible disadvantage but that of kind treatment.

As our space will not permit us to enter into these varieties, we will notice the noble breed only, which is thus described by Count Rzeiousky:—

“Above all the horses in the world, the *Kohlan* is distinguished for the goodness of his qualities and the beauty of his form. An uncommon mildness of temper; an unalterable faithfulness to his master; a courage and intrepidity as astonishing as they are innate in his noble breast; an unfailing remembrance of the places where he has been—of the treatment he has received; not to be led, not to be touched but by his master.”

The Arab horse is not gorged with large quantities of food as English horses are. In spring, they are turned out to pasture, when pasture is available; in the desert it is out

of the question. At other periods of the year, their day's provender does not exceed five or six pounds of barley, with sometimes a little cut straw, and on this they can sustain fatigue and exertion far beyond the endurance of an English horse, in their own climate. The Arabs give them a very small quantity of drink two or three times a day; judging that an unlimited supply of water would not only destroy their shape, but affect their breathing also.

The Bedouin Arabs are great horse-breeders, and produce some first-rate animals; but from their unsettled mode of life, as well as their innate knavery, little dependence can be placed on the pedigree of their horses. The skill of these people as breeders is unsurpassed in any country, and their accumulated experience is handed down from father to son by oral tradition, never by written rules.

The genealogy of the horse is reckoned from the mother; and the Arabs are as particular in their pedigree of the noble breeds of horses as in that of their chiefs. It is an undoubted fact that they have pedigrees amongst them of not less than five hundred years, with the succession distinctly traced. In the case of these horses, it is necessary for the chiefs to attest the coition of the animals, and also to certify the birth of the foal. If either of these prescribed formalities have not been attended to, the colt, however good his points, has lost caste, and will never bring a good price, or be considered of value, however fine may be his action.

THE ABYSSINIAN HORSE.

Upper Egypt produces horses of much larger stature than the Arab—or rather we should have said Abyssinia, for the original stock is from the deserts of the latter country. They possess great speed, and can endure almost any amount of fatigue, the universal characteristic of the Oriental horse. Some of these have been imported into England, but do not seem to have answered the expectations of their importers, and for the usual reason—stallions were imported instead of mares. “Possibly,” says the author, “with three-part bred mares, they might improve our cavalry horses.” It is more probable, that if the mares were imported, and put to our best stallions, they would improve our breed of useful horses. These animals sometimes fetch a high sum in Egypt, the breeders of which country are no bad judges. Borman thus writes of them:—“They are the most perfect in the world, beautiful and symmetrical in their

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parts, nervous and elastic in their movements, and docile and affectionate in their manners." Bruce speaks of them in terms equally high, and now that, by the facilities of transit through Egypt, their acquisition would be comparatively easy, it would be worth the while of any speculator to visit Upper Egypt in search of so promising a breed.

"What figure," says Bruce, "these horses would make in point of fleetness, is very doubtful, their make being so entirely different from that of the Arabian; but if beautiful and symmetrical parts, large size, strength, and most agile, nervous, and elastic movements, great endurance of fatigue, docility of temper, and seeming attachment to man beyond any other domestic animal, can promise anything, these horses are, above all comparison, the most eligible in the world."

THE BARB

Is not properly an Arab horse, but a race nearly allied. They are supposed to have been produced by a cross with Algerine horses, these being a cross with a south European breed and the Arab. They are often larger than the Arab, with fine heads and crests, well formed about the shoulder, with straight backs, drooping considerably towards the haunches. They are remarkably swift.

These horses are seldom kept in stables, but are picketed to the ground. They are watered and fed only once a day, the former at one o'clock, and the latter at sunset. The mode of cleaning the horse is to plunge him in a river two or three times a week, and allow him to dry without being rubbed down.

The superiority of some of these horses has been proved in England; the Godolphin Arabian, as already stated, was supposed to be a Barb, and contributed more to the improvement of our racers than any other foreign horse before or since.

THE AUSTRALIAN HORSE.

The horse is not indigenous to Australia, most of the indigenous animals of this singular country being of the marsupial class alone, of which the kangaroo is a type. At first, horses were exclusively imported from England, but they were found rapidly to degenerate. The coasts of Chili and Peru were then tried for mares, and this step was followed by the production of a breed admirably suited to the country. Surefootedness and endurance are now eminently

the characteristics of the Australian horses, and their sagacity probably exceeds that of all other breeds. It is wonderful to see an Australian stockman at full speed after a drove of wild cattle, amidst a mass of forest of which neither he nor his horse have the slightest knowledge. The ground beneath his feet is full of yawning chasms in the earth, caused by the dryness of the climate, whilst the overhanging branches threaten him every moment with such blows on the head, as, if not avoided, would speedily put an end to his horsemanship. Under these circumstances, there seems to be a compact between horse and rider, that the horse shall look at all dangers beneath his feet, whilst the rider ducks between the overhanging branches; and between them they perform feats which few English steeple-chasers would face, though accidents are very rare.

A similar, and perhaps a still better, breed is rapidly being introduced into New Zealand. The breeding stock is the same, but from the greater favourableness of the climate, it is probable that this country will produce one of the finest breeds of horses in the world. The South American horses imported here are fresh from the prairie, where they have been caught with the lasso, and the operation of breaking them does not take place till after they are landed, several Chilian or Peruvian horse-breakers always accompanying the cargo for the purpose.

We have often witnessed the process of these persons in breaking the wild horse as he finds a purchaser from the ship. As it is curious, and may afford hints to English horse-breakers, we will describe it. A post is firmly fixed in the ground, to which a ring is attached. The horse is then brought to the post with a long halter, and made fast. The breaker takes his poncho—a large cloak worn by the South Americans—and ties it round the eyes of the horse, so as to blindfold him. The animal is then left to himself, and shortly begins to tremble with fright at his unusual helpless position. A profuse perspiration breaks out upon him, and if suffered to continue thus, he falls from the exhaustion of the nervous system caused by his fright. Before this takes place, a rude saddle is placed on his back, heavily weighted at the stirrups, and to this he quietly submits. Presently, when the animal is stupified, the breaker goes up to him, and patting his neck and otherwise caressing him, in some respects soothes him, and this goes on till the horse exhibits signs of reliance on the breaker. By-and-by, the poncho is removed, and the lesson wished to be imparted has been learned, viz.,—that of

looking on man, who has relieved him from the fearful poncho, as his friend.

We have seen this lesson so skilfully administered, that the breaker has removed the weighted stirrups, and mounted on the bare back of the horse, which behaved with perfect docility. More generally, however, the lesson—always the same—has to be repeated, till the horse becomes perfectly docile, having learned to rely on man. And if afterwards kindly treated, there are no more docile horses to be found than these recently wild horses of the prairie.

THE TURKISH HORSE.

The only remaining Oriental horse worthy of notice is the Turkish horse. These are principally descended from those of Arabia, Persia, and Barbary. Their bodies are long, and their cruppers elevated; their foreheads are slender, and they carry their heads higher than the Arabian. They possess much fire and spirit, are extremely active, and are admirably fitted for the operations of Turkish cavalry. They are very affectionate, evincing great regard for their masters and the attendant grooms.

The Turks never strike their horses, and the animals, as a matter of course, never bite nor turn restive, their gentleness and obedience being perfect. The Turks take a pride in their horses, even beyond the Arab: and much as we have all read of the Turkish ferocity, these people are, *par excellence*, the most kind-hearted of the human race. They caress their horses with almost as much affection as their offspring, and their children are taught to treat them with equal gentleness. They especially delight to teach their horses all kinds of entertaining and useful tricks, amongst which they will pick up a stick or scimitar from the ground, and lift it to the rider. When a horse has learned this feat, his nose is adorned with a silver ring, as a badge of his proficiency.

Many Turkish horses have at various times been introduced into Britain with good success, and have become the sires of fine horses. But the improvement of English breeds will not be complete till the practice of introducing Oriental mares has become a point of as much importance with breeders as has been the importation of stallions.

In the above notice of Oriental horses, our aim has been to give such of their characteristics as may be suggestive rather than amusing to the English farmer, who may derive therefrom many hints as to the treatment of his breeding-stock.

As our account of foreign horses would be incomplete without a slight notice of the principal breeds on the western continent of Europe, we shall allude to a few only of these. And first of

THE DUTCH HORSE.

The characteristics of the Dutch horse are well known in the English metropolis, the unwieldy but well-shaped animals used by brewers being all sprung from this origin. The Dutch horse is large, but his action, though slow, is steady and agreeable. To keep up this breed some horses are still imported from Holland, chiefly into the eastern counties. Many of the Yorkshire coach-horses were obtained from the same source.

The Flemish horses, though as large as the Dutch, are inferior, their heads being uncouth, and their feet large and flat. They are subject to watery humours in the legs, and swellings in the heels. This arises from the low rank pastures on which they are fed—these producing rank grass, forming adipose and cellular substance, and rendering the muscular fibre soft. From the many hints of this nature thrown out in the present treatise, the farmer will be at no loss to perceive the influence of pasture on breed.

An enumeration of the horses of Northern Europe will conclude our notice of foreign horses, and this part of the subject is becoming an important one to English breeders. Since a line of steamers from Lowestoff to Denmark has been established in conjunction with the Eastern Counties Railway, great numbers of northern horses are finding their way to English fairs.

We shall first speak of

THE DANISH HORSE.

These are generally about fifteen hands high—lean, hardy, and capable of drawing great weights, being more remarkable for this than for speed. A singular instance of this is on record. A Count Haxhausen had a horse which was amongst the Danes a marvel of fleetness. The Danish monarch, Frederic IV., laid a wager with the Count that a footman of his should beat the horse in a race of twenty English miles, from Copenhagen to Fredericsberg. The race took place, and the footman beat the horse by *one minute*, but with a fatal result to himself; for on making his

bow to the king, on the termination of the race, the footman fell dead at his majesty's feet.

A notice of the system pursued in the Danish royal stables may not be without its use. The floor is laid with rough stones, on an inclined plane, and is so laid to prevent lameness, which frequently occurs when horses are allowed to stand in their unmoved litter. The mangers are semi-circular, and are high; the cribs are of iron.

THE SWEDISH HORSE.

These nearly resemble Scotch galloways, strong-built, clean, neat, hardy little animals, better adapted, from their small size, for the road, rather than for draught. On a journey they rarely tire, and from the firmness of the hoofs, as seldom stumble, whilst swelled legs and greasy heels are unknown amongst them. Their size is from thirteen hands upwards, and they are stout in their make. The colour is gray or dark chestnut, and they are for the most part beautifully dappled. The dun ones have always a black mane and tail, and a black list along the back. In all respects, their importation would be desirable for the purposes to which they are adapted.

Besides these is the sledge-horse, of larger size and thinner make. These are almost exclusively employed in drawing sledges, and the speed with which they trot with these is remarkable, going at the rate of eighteen miles in an hour. At Gottenburg there are annual races, not for galloping, but for sledge-trotting. The fleetest of these trotting horses frequently sell for a hundred guineas each. Mr. Wilson states that the Swedish horses are only shod in the fore-feet.

The Finland horses are smaller than the Swedish, seldom more than twelve hands, but finely formed, fleet, and good in their paces, trotting twelve miles an hour with ease.

The Norwegian horses are larger than the Swedish, and are very hardy, and remarkably sure-footed, as would be the case from the hilly nature of the country. They are full of spirit, and climb and descend precipices like goats. They require, however, to be left to their own management, or the rider would run no slight risk of breaking his neck.

The Russian horse scarcely merits a separate notice, the ordinary breed being only distinguished for its ugliness, towards which its woolly hair in no slight degree contributes. They are hardy, patient, and bold. There are, however,

many fine horses in Russia, which are procured from the Calmucs and the colonies.

Of late years the Russians have been large purchasers of English racers, and their breed of horses has become considerably improved. Numbers of English horse-dealers and grooms find profitable occupation in Russia.

CHAPTER II.

HISTORY OF THE ENGLISH HORSES.

THAT horses were introduced into Britain long before the Christian era, we have abundant evidence, and that the inhabitants had acquired great expertness in their use is equally certain. In the ancient British language *Rhediad* is the word for a course—*Rheder* to run—and *Rhedecfa* a race. All these spring from the Gaulish *Rheda*, a chariot. Here, then, is direct evidence that horses were introduced from Gaul, and that chariot races were established at a very early period. From the different kinds of vehicles noticed by the Latin writers—the *carruca*, the *covinus*, the *essedum*, or war chariot—it would appear that the ancient Britons had horses trained to different purposes, as well domestic as warlike.

During the occupation of England by the Romans, the British horse was crossed to a considerable extent by the Roman horse, and yet, strange to say, no opinion is given by any historian, Roman or British, as to the effect of this. After the evacuation of England by the Romans, and its conquest by the Saxons, considerable attention was paid to the English breed of horses; and we know that after the death of Alfred, and under the reign of Athelstan, several *running horses* were imported from Germany: this being the first historical intimation we have of running horses in England. It is scarcely to be doubted that this importation produced a marked effect on the character of the native breed; but here, as before, no historian has thought it worth his while to record the fact of either improvement or deterioration.

English horses, after this, appear to have been highly prized on the continent, so that the German horses which were presented by Hugh Capet to Athelstan had been

turned to good account. The English themselves were, however, anxious to preserve the monopoly of the breed, for in 930 A.D., a law prohibited the exportation of horses. In Athelstan's reign many Spanish horses were imported, which shows the desire on the part of the English, even at that early period, to improve the breed. It is no wonder that their descendants should have produced the finest horses in the world.

Shortly before the Norman conquest, a horse was valued at thirty shillings, a mare or colt at twenty shillings, and an untrained mare at sixty pence.

William the Conqueror took great pains to improve the English breed, introducing many fine steeds from Normandy, Flanders, and Spain. This monarch owed his success at Hastings chiefly to his cavalry; his own horse was a Spanish one. In this reign we have the first notice of horses being employed in agriculture. They had been used for the saddle for many centuries, Bede informing us that the English began to use saddle-horses as early as 631 A.D.; and that people of rank distinguished themselves by appearing frequently on horseback.

During the Conqueror's reign, the then Earl of Shrewsbury, Roger de Belesme, brought a number of Spanish horses to his estate of Powisland. The breed issuing from these is highly eulogized by Giraldus Cambrensis and Drayton.

In the reign of Henry I. we have an account of the first Arab horse imported into the country. It was presented by Alexander I., King of Scotland, to the church of St. Andrew's, together with many valuable accoutrements, and a considerable estate. History, however, is silent as to the purposes to which this animal was devoted, or as to what ultimately became of him. Much interesting curiosity is derived by tracing the progress of a pursuit which employs so much capital, and engages the attention of so many minds, as does the turf; and it is the passionate fondness which this nation has devoted to racing—originally introduced as an amusement,—which has been the means of establishing that class of horses denominated the thorough-bred. The high repute which we have gained for the production of them has long been acknowledged by foreign states; and it would be a grievous reflection on the present age of improvement if the character of our horses should descend from its proud pinnacle of fame. There is every probability that the chase gave the first impulse to racing: at all events it proved a

powerful stimulus. The speed and stoutness shown by horses when galloping over the open country in pursuit of the antlered monarch of the forest, was calculated to suggest the idea of similar trials on the green sward.

The English had now become sensible of the value and breed of their horses, and in the twelfth century a regular race-course had been established in London; this being none other than Smithfield, which was at once horse-market and race-course. Fitzstephen, who lived at that period, gives the following account of the contests between the palfreys of the day :—

“When a race is to be run by horses, which in their kind are strong and fleet, a shout is raised, and common horses are ordered to withdraw from without the way. Two jockeys, then, or sometimes three, as the match may be made, prepare themselves for the contest, such as are used to ride, and know how to manage their horses with judgment, the grand point being to prevent a competitor from getting before them. The horses on their part are not without emulation. They tremble and are impatient, and continually in motion. At last, the signal once given, they hurry along with unremitting velocity; the jockeys inspired with the thoughts of applause, and the hopes of victory, clapping spurs to their willing steeds, brandishing their whips, and cheering them with their cries.”

This is a quaint and amusing picture of the dawning spirit of horse-racing. Crossing was evidently an acknowledged accomplishment, and personal flagellations between competing jockeys not unfrequently resulted from excess of emulation. Fertile indeed must have been their imaginations if they dreamed that their racing frolics would, in process of time, grow into an important national speculation; much less could they have anticipated that their unsophisticated pastimes were the embryo of that fame which has been acquired by England through the medium of the race-horse.

This description, with the exception of the cries, might have formed part of the record of a modern race at Epsom in the columns of a morning paper; so national is the English sport of horse-racing, and so unchanged are its characteristics in all but the existing gambling system, which has been incorporated with the efforts of the noble animal to reach the goal first.

The crusades now followed; yet, though the opportunities of improving the English breed were necessarily great, from the facilities with which the finest Oriental horses might

have been obtained, no advantage seems to have been taken of them. A gloomy and superstitious fanaticism solely occupied the minds of the warriors, and to this all useful purposes were sacrificed; the English horses were none the better for their experience, though they must frequently have felt the superiority of the Oriental breed in actual warfare.

King John paid great attention to the improvement of horses for agricultural purposes, and to him we are indebted for the origin of our draught-horses. He chiefly imported Flemish horses, and such was his anxiety to possess the finest stock from these, that he would accept strong horses as rent for Crown lands, and as fines for the renewal of leases. His personal stud was both numerous and excellent.

Edward III. was the first amongst our monarchs who thought the subject worthy of his serious attention. He was a zealous patron of the course, and in his reign English horse-breeders began to cross the heavy native breed with horses of a lighter structure and greater speed. The king himself purchased a considerable number of Spanish horses, the offspring of the Arabs, which had been introduced into their country by the Moors. The effort was eminently successful, for the English horse soon began to be valued in other countries, and its exportation from our own shores was prohibited under considerable penalties.

Such was the importance which this monarch attached to the Spanish breed, that he gave a thousand marks for fifty horses, negotiating at the same time with the kings of France and Spain for their safe passage by land. They all arrived safely, at a cost of thirteen pounds, six shillings and eightpence each; equal to a hundred and sixty pounds of modern money. Edward was also an eminent example to many stud-owners in our day, viz., by going deeply in debt for his horses; he having been at one time indebted to the Count of Hainault in no less a sum than twenty-five thousand pounds. The price of a *running horse* in his day was three pounds six shillings and eightpence;—though we scarcely know what was the true meaning of a running horse—probably a hackney. Edward was very jealous as to the quality of English horses. A German dealer had imported some which did not come up to the monarch's standard, and yet he would not allow him to re-export them, without a stipulation that he would not take them to Scotland!

Prince Edward, son of Henry III., was not deficient in that acumen which has subsequently characterized the adherents of racing. Being taken a prisoner with his father

at the battle of Lewes by the Earl of Leicester, during some of the time when he was in captivity he was permitted to enjoy equestrian exercise escorted by soldiers. Mounted on a speedy horse himself, he proposed to his guards that they should ride races with each other, which request, for the sake of amusement, they willingly complied with. Like a skilful tactician, the prince reserved the powers of his own steed till he saw that the horses of his attendants were jaded, and then seizing the opportunity, set spurs to his charger, and soon left the others in the rear. This anecdote, although it bears no analogy with racing, as it is conducted at the present period, serves as evidence that trials of speed were resorted to for amusement in the early ages of British history.

Horse-jockeyism had now become an important trade, and many cheats were practised. To so great a pitch had this arisen, that in 1386, Richard II. passed a horse statute expressly against such frauds.

Richard II. and the Henries were equally anxious for the further improvement of the breed of English horses. They were even more strict in their prohibitions in case of exportation; they were, however, more eager to gain by speculating than to extend the improvement of the breed. The improvement, indeed, much as it was valued, had scarcely extended beyond those crosses from which little good could have been expected, and which had more reference to the then heavy carriages, bad roads, and consequently slow travelling, which prevailed, than to the noble changes in the horse, as well as in the country, which were destined to be effected in the course of a few centuries.

Races were now regularly established in various parts of the kingdom, and their regulation became a favourite object with the higher classes, as the race itself was the favourite recreation of the common people. The earliest amongst the regularly established race-courses were at Chester and Stamford. But there was, at that time, no recognized breed of running horses; all sorts were mingled together, none being excluded. It was not until the last year of James I., that rules and regulations as to the quality of the horses permitted to enter were established, and from that period may date the commencement of the present system of racing.

Till the reign of Henry VII. we have few other accounts of the progress of the English horse. Post-horses and stages were, however, established in the reign of Richard III. Like the Arabs, English gentlemen in these times never rode mares, but the clergy did.

In the reign of Henry VII. horses had become so numerous, as to be pastured over the waste lands by the common people. Exportation was still forbidden, except in the case of mares. In the reign of Henry VIII. much attention was given to breeding powerful horses, and statutes were enacted which fixed the proportions of size and mould of horses and mares which should be bred from. The thirty-second of Henry VIII. enacts, that no person shall, upon any common or waste, keep a stallion under fifteen hands; and if that any person find such a horse, he may, on satisfying the constable of the next town that the horse is under standard, keep him for his own use. Such foals, fillies, or mares, as were not considered able to bear foals of reasonable stature were, by the same act, to be killed and buried.

There is no doubt but that these statutes, harsh as they were, laid the foundation of the excellent breeds now common in England. Henry VIII. was every inch a horseman, and he delighted especially in everything regarding the noble animal. He compelled the nobility, gentry, and higher orders of the clergy, to keep a number of horses in proportion to their rank; whilst even the country parson, "whose wife should wear a French hood, or velvet bonnet," was compelled to keep an entire trotting-horse, under penalty of twenty pounds. During the reign of Henry VIII., an annual race was run at Chester, but the year when it first took place is not known. The prize was a wooden ball embellished with flowers, fixed upon the point of a lance. This diversion was repeated in the presence of the mayor of the city, and was celebrated on the Roodee, the identical spot where the races are held at this day. These trophies were provided by the Company of Saddlers. In the year 1540, a silver bell was substituted for the former prize, under the title of "St. George's bell."

The classification of horses at this period is various. The *gentill* horse was one of high caste. The *palfrey* was a lady's horse, noted for its easy paces. The *great horse* was a war-horse. The *hobby* was a strong, active riding-horse, whence the proverb of a man "riding his *hobby*." The *clothsek* was a cloak-bag horse. The *gret doble* was a trotting-horse, employed in carrying burdens. The *curtal* was a horse whose tail has been shortened. A *gambaldinge* horse was one which was trained for show and parade. An *amblinge* was a horse trained to the favourite ladies' pace.

The first English writer on the horse was in this reign, viz., Sir John Fitzhubert, Judge of the Common Pleas. And

he had evidently bought his experience pretty dearly, for he cautions the buyer against being done by dealers—"as I have been a hundred tymes and more;" wherefore he was no doubt as well fitted to judge of horseflesh as of law. Sir John's mode of judging a horse is, however, more curious than useful. "Thou shalt know that a good horse has fifty-four properties; that is to say, two of a man, two of a badger, four of a lion, nine of an ox, nine of a hare, nine of a foxe, nine of an asse, and ten of a woman."

In the reign of Edward VI. horse statutes became actually ferocious. To steal a horse was visited with death without privilege of clergy, and this barbarous statute extended to our own times, as all elderly, or even middle-aged persons can call to remembrance.

In the reign of Elizabeth there appears to have been a great falling off of cavalry horses, for in 1588, on the threatened invasion of the Spanish Armada, more than 3,000 horses could not be mustered, and these, says a contemporary writer, were very indifferent as chargers. He states, however, of English horses generally, that they were strong, bulky animals, slow in action, and only fit for agriculture or draught. Coaches were introduced in this reign, and these bulky animals were in great demand, from the unwieldy nature of the carriages, of which the Lord Mayor's annual raree-show presents a specimen.

To James I. the improvement of English horses owes much; for it was he who first ventured upon that grand improvement in breeding, the introduction of horses from eastern countries, from which the fame of their horses had gone forth from time immemorial. He purchased an Arabian horse from a merchant named Markham, and gave for it the enormous price, according to the value of money at that period, of 500*l*. This horse, however, on trial, was found deficient in speed, and the Duke of Newcastle, who then managed the sporting affairs of the king, took a dislike to the horse on this account; no one had sufficient courage to demand that his breed should be put to the test; and for the greater part of a century, the Arabian breed sank into disuse, and almost into contempt.

The only annual race established prior to the reign of James I. was that at Chester; meetings were now held in Yorkshire, at Newmarket, at Croydon, and at Theobald's, on Enfield Chase. Training the horses came into vogue, a ceremony which no doubt created intense interest with those who engaged in the pursuit. The practice of weigh-

ing the jockeys was also adopted, and the pedigrees of the horses which acquired fame became a subject of attention, an example in all probability borrowed from the Arabs. Those which gave proof of superior speed were selected to breed from, and the produce was devoted principally to racing. The genealogy of our present stock cannot be traced to so early a date; yet it is probable some of that blood was continued in strains, which will be hereafter noticed. Importations of foreign horses took place during the reign of Charles I., and at the time of the Commonwealth, also during the respective sovereignties of Charles II. and James II. Whether they came from Barbary, Turkey, or the continent of Europe, they were supposed to be the lineal descendants of horses from the Arabian deserts.

During the protectorate of Cromwell, a south-eastern horse, the beautiful WHITE TURK, was introduced. The advantages of the breed again became perceptible, and he was soon followed by the Helmsley Turk, the Morocco barb, and by a variety of horses of similar descent. Thus, a beauty of form, and a degree of speed and stoutness, to which an approach had scarcely been observed in the original breeds, was obtained.

On the Restoration, Charles II. gave every possible encouragement to horsemanship. He established races on Datchet Mead, and often attended the newly-established course at Newmarket, entering his own horses. The racing cup was now substituted for the bell, the old prize, and the example of the king raised the course to a splendour before unknown.

This king, to whom we are in a great measure indebted for the introduction of the present strains of foreign blood, sent his master of the horse abroad to procure a number of foreign horses and mares; the latter, which were brought over by him, were called the Royal Mares, from one of which in the maternal line the genealogy of Eclipse is traced. The pedigree of his sire, Marske, is somewhat obscure: it goes back through eight generations to a daughter of Bustler; but how her dam was bred there is no authority. It may be conjectured that she was descended from some of the worthies which distinguished themselves on the course in the reign of James I. There are several examples of a similar nature traceable in the stud-book, which lead to the conclusion, that during the early periods of breeding for the turf, mares used for ordinary purposes were occasionally selected in case they evinced speed and stoutness, without

reference to their oriental pedigrees. The pedigree of Hihg-flyer affords a similar instance to that of Eclipse, and singular to relate, runs into precisely the same strain of blood. On his dam's side he can be traced to a royal mare; but in the paternal line his genealogy terminates in a mare which produced a filly from Bustler, which horse was a son of the Helmsley Turk. Although there are scarcely any horses on the turf at the present day which are not in some degree descended from the royal mares, it appears too much to assert that they all owe their origin entirely to Eastern blood. The casuist may, therefore, with consistency inquire, What is a thorough-bred horse? The term is accepted conventionally to signify a horse whose pedigree can be traced through many generations, the members of which have signalized themselves on the turf, or have established their reputation as progenitors of superior horses.

"Having indulged in a few preliminary canters" with the coursers of the earlier ages, to the era of James II., we will now draw near to the starting-post, from which we can gain more extensive and authentic information concerning pedigrees and performances, and thereby more satisfactorily trace the progress which has been made in racing, and breeding for that purpose. William III., endowed with an ardent desire to gain popularity by patronizing the tastes and fashions of his people, became a decided patron of racing. The latter part of this reign was distinguishable for a very notorious character in the person of the celebrated Tregonwell Frampton, who, by some means, acquired the title of Father of the Turf, an honour of which he was totally undeserving, unless that the most diabolical acts and deceptive practices occasioned the distinction. Many tales are related of him, known to be authentic, one of which is too disgraceful to be given, but there is another which will bear repetition, though often told before, as it will serve to show that many of the delinquencies of modern days are not without their parallel. Sir William Strickland and his friends backed a horse called Merlin to run against a favourite of Frampton's, for a large amount, the race to take place at Newmarket, where Merlin was sent from the north, to be trained, under the care of a man named Heseltine. The trainer had not been long at Newmarket when a proposal was made to him by Frampton's man to run a private trial, at the same weights and distance as the proposed match, for their own special guidance and information. Heseltine, with a sense of integrity which did him credit, immediately informed his employer of the propo-

sal, whereupon he was instructed to do it, but secretly to carry seven pounds extra. Frampton, who was privy to the scheme, had ordered his man to do precisely the same thing. The horses ran the trial, which was won by Merlin by a length; the result was communicated to the respective masters, who, in consequence doubled the stakes, each thinking, of course, that he had the best of it. The day came for the race to be run, and anxious speculators attended to witness the event. Merlin won the match, as he had won the trial—thus, the perpetrator of the disgraceful artifice was, to use a modern phrase, “put in the hole” which he had prepared for others. A trifling addition to his style would have rendered it more complete and applicable,—he should have been distinguished as the Father of Turf Delinquencies. He has left a numerous family, much to the regret of the honourable patrons of racing.

The principal ancestors of our earliest race-horses were the Byerley Turk, ridden by Captain Byerley, as a charger in Ireland, about the year 1689. The Darley Arabian, in force about 1712. Curwen's Barb, a contemporary; and the Godolphin Arabian, which celebrated sire died in the year 1753, supposed to be in his twenty-ninth year. It is a moot point whether he was an Arabian or a Barb, but, however doubtful the land of his birth, it is an unquestionable fact that there are very few horses of distinction without a cross of the Godolphin Arabian: to him and the Royal mares the highest honours are due. Other horses of eastern origin were imported and used for the purpose of breeding when that interesting engagement was in its infancy, but none of them acquired the celebrity of the four just named. They were not numerous, and from necessity the practice was resorted to of breeding from animals very nearly related. The highly-elogized Flying Childers affords a remarkable instance of this; his great grandam was a daughter of Spanker, her dam a Barb mare, the mother of Spanker; thus the breed was perpetuated by the union of the mother with the son. Rachel, the dam of Highflyer, was a daughter of Blank, and granddaughter of Regulus. Blank and Regulus were both sons of the Godolphin Arabian. Fox, a good runner of his day (1719), and sire of superior stock, was bred in a similar manner, but substituting the father with the daughter for the mother with the son. Goldfinder, another of the worthies of olden times, foaled in 1764, was a son of Snap, his dam a daughter of Blank, and granddaughter of Regulus, whose consanguinity has been already noticed. Buckhunter, after-

wards named the Carlisle gelding, was a son of the Bald galloway, his dam by Lord Carlisle's Turk, grandam also by the Bald galloway. He was foaled in 1713. These examples might be multiplied to a considerable extent with horses bred about the commencement of the eighteenth century, but as the resources for breeding became more numerous, the necessity for the continuance of incestuous strains no longer prevailing, experience, together with the principles of physiology, convinced breeders that it was an erroneous practice. The most striking instance of incestuous breeding at the present date is found in the pedigree of the St. Leger winner, the Knight of St. George. He was by Irish Birdcatcher, dam by Hetman Platoff, grandam Waterwitch, by Sir Hercules. Birdcatcher was a son of Sir Hercules: thus that justly celebrated stallion was grandsire on the one side and great grandsire on the other, a degree of consanguinity sadly too closely allied to be justified by sound experience, and it would be dangerous if this instance of success were to be taken as a precedent. A few breeders will no doubt be tempted to try the experiment, but there is not much probability that it will become a general practice.

As it is evident that our thorough-bred horses owe their descent principally from Arabian, or other eastern ancestors, Barbs, or Turks, in theory it would appear that parents of the same blood would produce stock of the highest value, and the opinion has been very earnestly expressed that the introduction of Arabian sires is absolutely required to infuse vigour, constitution, stoutness, and endurance into the race-horses of the present day. Practical experience confutes the argument, and the reasons will become quite obvious when the invariable unsuccessful examples of modern times are brought forward. During the present century several Arabians have been imported for the purpose of breeding, and their stock has been found worthless compared with that which, in the course of years, has become, so to speak, indigenous to the country. With the exception of one mare called Fair Ellen, an offspring of the Wellesley Arabian, none have evinced even common pretensions to racing superiority; and here it must be observed, that although the last-named horse came from the East, his Arabian ancestry, like that of many others, is disputed. Within the last twenty years several horses, stated to have been of the pure blood of the desert, have been brought to England and started for various races, but they have been invariably beaten, although the levelling power in turf calculations,—a vast concession of weight has, in every instance,

been accorded to them. So great is the superiority of the present breed of English race-horses over those of eastern extract, that no reasonable weight will equalize their powers at the winning-post.

Queen Anne patronized the turf extensively by running horses, and also by annual presentations of gold cups, value one hundred guineas each, to be run for at York. According to the "Racing Calendar," published by Weatherby, which appears to be the only veritable authority extant, the first of these cups was given in 1711, and they were continued to the end of her majesty's reign. It is, however, recorded that the first cup run for as a prize was in 1646, at Stamford, where there were races on every Thursday in March, but by whom it was given, or how provided for, I can find no evidence. George I. continued the example of his royal predecessor in the presentation of cups, and in his reign the first royal *plate* is mentioned as having been won at Black Hambledon in 1716, by Brocklesby Betty, a mare at that time in high repute. Racing, and consequently the stimulus to breed horses for that purpose, when in its infancy, received a gracious impetus by the presentation of royal plates, which at the period when they were first offered, and during many years, were regarded as prizes of sufficient value to induce noblemen and gentlemen to breed and train horses in the hope of gaining them, to which emulation was doubtless a powerful excitement. So great are the changes which have taken place, and so large and numerous are the stakes open for public competition, that the royal plates are now scarcely considered worthy of notice. Nevertheless it is necessary to trace their progress in order to show the promotion which has taken place in the prosperity of the turf. In the reign of George II. the number of these prizes was considerably augmented. In 1730 three king's plates were given at Newmarket, and one each at Guildford, Ipswich, Salisbury, Nottingham, Winchester, Hambleton, York, Canterbury, Lewes, and Lincoln. The custom was continued throughout that king's reign, but his majesty's name does not appear as the owner of race-horses. The good king George III. increased the number of plates to twenty-three in England and Scotland, exclusive of those which were given to be run for in Ireland. The succeeding sovereign made other additions, and in 1830 we find twenty-seven enumerated in the Racing Calendar, and at the end of the reign of William IV. they numbered thirty-four. On the accession of Her Majesty some new regulations were

introduced respecting weights and distances, to assimilate with the prevailing customs of racing, in expectation that they would render the queen's plates attractive—a good intention, which has not been realised. Since that period a plate has been awarded to Brighton, and another for mares at York, raising the number to thirty-six; and some of the plates have been transferred from places where racing was on the wane to others of greater importance. When the royal plates were first presented, it was an invariable custom that the five-year old horses should carry ten stone each, and run four-mile heats, certain plates being confined to horses of that age; the conditions of those plates which were for horses of greater ages imposed a burden of twelve stone. These regulations remained in force at the commencement of the present century; but heats are now discontinued, the distances are shortened, and the weights reduced. Many persons are of opinion that these alterations are objectionable, as conducive to the encouragement of a breed of horses less powerful and deficient in stoutness. There may be some grounds for the impression, yet when it is remarked, that according to the old system the supporters of the turf of the present day are not inclined to run their horses, and that the royal plates would no longer continue to be productive of contests under the original conditions, there was no alternative. In the course of these remarks the misconceptions respecting the necessity of distressing distances as tests of superiority will be more diffusely considered. During the eighteenth century the breeding of horses for the turf seems to have been generally confined to the nobility and gentry of wealth. The fame of favourite progenitors was a powerful stimulant with them, and the desire to breed good horses more than the love of gain predominated. The pursuit has now, with few exceptions, become an object of speculation, and persons of all classes who keep studs do so with a view to profit. Still the same good intention is accomplished, and much more extensively. At the lowest computation there are more than five times the number of horses bred at the present period than there were in the corresponding year of the last century. Every breeder endeavours to produce the best horses—it is his ambition and his interest to do so. As the most distinguished breeders of the olden times may be mentioned the royal dukes of Cumberland: the first of whom, a son of George II., conferred great benefits on the racing public, as the breeder of Eclipse and King Herod.

The succeeding royal duke, a brother to George III., was a successful breeder of racing stock. The Dukes of Ancaster, Devonshire, Bridgewater, Somerset, Wharton, Rutland, and Bolton, and many noble lords, are to be found prominent on the lists of their respective days. When we arrive at the present century, we find the names of the Dukes of Hamilton, Leeds, and Cleveland (then Lord Darlington), the Marquis of Westminster (then Earl Grosvenor), Earls Egremont, Derby, Fitzwilliam, Stamford and Warrington, and Scarborough, each of whom had favourites, worthy specimens of their species. With rather long intervals between the dates of their being foaled, the aforesaid noblemen had several horses of repute, the progenitors of our present stock. There were in those days but few mares devoted to the stud. A few peculiarities of character, incidents, and events connected with some of them are worthy of notice, from the examples they afford in the occult science of breeding: Bonny Black, for instance, bred by the Duke of Rutland, in 1716, distinguished herself on the course, but did not prove a good brood mare; none of her descendants were of any worth, and her family is extinct. Her running was so very superior that it deserves to be described: at three years old she beat a six-year old horse at even weights four miles; the following year, for the king's cup at Hambleton for five-year old mares, four miles, without any allowance for her age, she beat a field of thirty, being the greatest number of horses that had been known to start for a race in those days, or indeed for a long time afterwards. She won the cup again at the same place when five years old, beating a field of fifteen: also a cup at Newmarket, beating thirteen competitors. To account for the inferiority of her progeny it must be observed that her dam was by a Persian horse; blood which does not appear to have been valued even in those early days. It was reserved for Mr. Darley to introduce a horse which became a worthy progenitor of the best blood of the present day. This gentleman had always thought that the Arabian purchased from Mr. Markham had not been fairly treated, and anxious to renew the experiment, he commissioned his brother, then in the East, to procure another Arabian of promise and send him to England. The commission was carefully executed, and a horse was met with which was bred in the desert. On his arrival the beauty of his symmetry was immediately recognized, for it embraced every point that could be desired in a race-horse. From this horse is descended a vast number of the

most celebrated racers, and at the present period there is scarcely one which does not possess some of his blood. The most celebrated of his immediate offspring were the Devonshire or Flying Childers, and Bartletts Childers, a horse which was never trained, but his superiority in the stud is well known. The wonderful tales which have been related concerning Flying Childers, like the snowball, have increased in their progress, therefore a brief digression is necessary to unfold these romantic conceptions. It is related that he gave Fox twelve pounds over the Beacon course at Newmarket, and beat him a quarter of a mile in a trial. Every racing man would naturally inquire if Fox could not have got nearer at the end, and few indeed place much reliance on trials without substantial evidence to corroborate reports. It is also said that he ran a trial against Almanzor and the Duke of Rutland's Brown Betty, nine stone two pounds each, over the round course at Newmarket, three miles, six furlongs, and ninety-three yards, which distance, according to many accounts in print, "He ran in six minutes and forty seconds, to perform which he must have moved at the rate of *eighty-two feet and a half* in one second of time, or nearly at the rate of *one mile in a minute*." The inaccuracy of this is patent. If a horse moved at the rate described, he would get over the distance in a trifle less than four minutes and a half. No horse that ever was foaled ever went at the pace spoken of. The rate of fifty feet in a second is very great, and more than the average pace required to run the distance of the Beacon Course, four miles, one furlong, and one hundred and thirty yards, in seven minutes and a half, which Childers is also reported to have done. After all the high-flown panegyrics concerning the racing exploits of this horse in public—the only trials worthy of credence,—they were confined to the winning of two matches, for the first of which at six years old, carrying eight stone five pounds each, he beat Speedwell, a gelding of equivocal celebrity (the distance was four miles); for the second, when seven years old, he beat Chanter, twelve years old, six miles. He was engaged in three other matches, for which he received forfeit. It is related that he was at first used as a hunter, and that he was headstrong and vicious. He was the property of the Duke of Devonshire, who bought him when young from Mr. Childers, whence his name. He died in the Duke's stud at the age of twenty-six years. These observations are not intended to detract from his excellence in the stud, but to confute the marvellous tales

which seem to excite the wonder and admiration of the uninitiated, while among experienced turfites they attain no credence. Bartlett's Childers, another son of the Darley Arabian, was never trained to the course, but his symmetry sufficiently spoke for itself. A great many of the first horses of the day owned him for their sire, and the two Childers were soon acknowledged for their superiority in the stud.

As a worthy scion of the latter stands his great-grandson the celebrated Eclipse, of whose speed no correct estimate was formed; for, although he contended with some of the best horses of his day, he never met with an opponent sufficiently fleet to put his powers to the test. He was soon withdrawn from the turf, and became the sire of one hundred and thirty-four winners, who brought their owners more than 160,000*l.* exclusive of cups. He was bred by the Duke of Cumberland, and owed his name to his having been foaled during the great eclipse of 1764. At the sale of the Duke's stud, he was bought for seventy-five guineas. Eclipse was five years old before he was brought on the turf, his first race being for the maiden plate at Epsom. His powers were at once seen, and in his next race at York, twenty guineas to one were betted on him. During the race this increased to a hundred guineas to one. At the end of the first two miles he was a distance before his competitors, and won with the greatest ease.

In 1769, a Mr. O'Kelly became his proprietor for sixteen hundred and fifty guineas. In 1779, one of the Bedford family asked his price. O'Kelly replied, that "all Bedford Level would not purchase him." From another person he asked 25,000*l.* down, and an annuity of 500*l.* for life. O'Kelly cleared 25,000*l.* by him.

Eclipse won eleven king's plates, in ten of which he carried twelve stone, and in the other ten. In running he had a vast stride, and his hind legs were so spread "that a wheelbarrow might have been driven between them." The points of this horse most useful to the breeder were, the curve of his head, the slant, extent, and substance of his shoulders, the length of his waist, and breadth of loins, the extent of his quarters, and the length and substance of his thighs and forearms. He died in 1789, aged twenty-six years. His heart weighed fourteen pounds.

KING HEROD was another famous racer, whose blood is much valued at the present day. He was a descendant of Flying Childers, was the sire of no less than four hundred and ninety-seven winners, which gained for their proprietors

upwards of 200,000*l*. He was not brought on the turf till five years old. His forte was stoutness or bottom and with physical powers, which enabled him to carry weight. He was, however, beaten twice out of five races at Newmarket. He was the sire of many celebrated horses. King Herod died in 1780, at twenty-one years of age.

Several horses of high character were foaled towards the end of the last century; the most conspicuous of which were, Sir Peter Teazle, bred by the Earl of Derby; Gohanna, by the Earl of Egremont; Haphazard, by Lord Darlington; Benningborough and Hambletonian, by Mr. Hutchinson; Dick Andrews, by Mr. Lord. Sir Oliver, a horse of great power and substance, was bred by the Earl of Stamford and Warrington in 1800; he was the sire of many good brood mares, but not of many first-rate horses: this is not an individual case—a subject which will bear remarks on a future opportunity. The Marquis of Westminster kept up his stud till within the last fourteen or fifteen years, with triumphant success, and in former years bred several winners of the Derby and of the Oaks, and more recently, Touchstone, Satirist, and Launcelot, winners of the St. Leger. More recently, the Earls Jersey, Exeter, and Derby, have been most extensive patrons; the former noble lord, with the far-famed Prunella blood, from the Duke of Grafton's stud, having been unusually successful—Bay Middleton, to wit. During the latter part of the last and commencement of the present century, Sir Charles Bunbury was an extensive and very fortunate breeder: his mare Eleanor having won both the Derby and Oaks, was sufficient to stamp his fame; he also bred the celebrated Highflyer, and Smolensko, the latter a winner of the Derby. This gentleman was the first to promote a reduction of the distances for which horses were accustomed to run. The opponents to the alteration were ill-natured enough to assign the motive as arising from the particular qualifications of his own horses—that they were speedy, but wanting in stoutness. The Sorcerer blood, to which he was partial, had that character, but it is questionable whether the deficiency of stoutness was not imaginary. At all events, the failing has not invariably descended to the progeny, for which Venison affords an example, as his dam was a daughter of Smolensko, a son of Sorcerer. Foreign states have devoted much money and attention to the improvement of their horses by establishing extensive breeding studs. This kingdom has acquired unequalled celebrity without such auxiliaries, and it redounds much to the praise of British en-

terprise, that so much renown has been gained by the spirited exertions and liberality of noblemen and gentlemen of wealth.

His Royal Highness the Prince Regent gave great encouragement to breeding horses, and to racing. By his command, the paddocks at Hampton Court were placed under the direction of the late Mr. Goodwin, whose son was thirty-seven years inspector and veterinary surgeon to the royal stud; but from ill-health he has now retired. It was the intention of the Prince Regent, independent of breeding race-horses, to breed thorough-bred gray horses, sufficiently powerful for his own riding; and for that purpose twelve gray mares were purchased, and also Sir Harry Dimsdale, a gray stallion; but his Royal Highness's anticipations were not very successfully realized. Gustavus, a gray horse, the winner of the Derby, was bred at Hampton Court; and to exemplify the uncertainty connected with racing, this horse's history is worthy to be introduced. He was so small as a yearling, that the idea of his ever aspiring to the honour of carrying his royal master was out of the question, and he was sold to Mr. Hunter for twenty-five guineas, and that gentleman was afterwards so much dissatisfied with his bargain, that he offered to sell him at a loss. At the low price of fifteen guineas, he was unable to attract a customer, and was therefore obliged to keep him. The following year, with the odds 20 to 1 against him, he won the July stakes at Newmarket. At three years old he won the Newmarket stakes, the Derby, and two matches; and when four years old, the Claret stakes and 200 guineas at Newmarket, after which he was put to the stud. This, it must be acknowledged, was a fortunate speculation, and is one of numerous other proofs that might be introduced, that a race-horse, if sound, should never be discarded till he has been fairly tried.

Contemporary with the Prince Regent, his Royal Highness the Duke of York had a select stud of mares at Oatlands, where Moses, a Derby winner, was bred. The principal favourites with his Royal Highness were Rubens, Moses, Seymour, and Aladdin.

The stud at Hampton Court was kept up with great care through the reigns of George IV. and William IV., and I have good authority for stating, that the latter sovereign made a good profit by the investment. The horses kept for the use of the stud from 1820 to 1837 were, Soothsayer and Rainbow, both sent to France in 1823; Waterloo, Moses, the Colonel, and Tranby, the latter sent to Virginia in 1835; Helenus, sent to Germany in 1835; Rubini, Cain, and Acteon.

At the conclusion of the reign of William IV., there were fifty brood mares of unexceptionable pedigree and character, including a few Arabians; and at the annual sale which took place in the spring of 1837, at Messrs. Tattersall's, the last during the reign of his late majesty, eleven colts and thirteen fillies produced 5,389 guineas. Here it may be mentioned, that two colts, one a descendant of Rubini and an Arabian mare, the other a pure-bred Arabian, were sold for twenty-seven and thirty-three guineas respectively. This is a certain criterion of the low estimation in which the Arabian blood is regarded, and of their worthlessness for improving the character of thorough-bred stock.

At the decease of King William the royal stud was disposed of by Messrs. Tattersall, in October, 1837. It consisted of forty-three brood mares, thirteen colts, and eighteen fillies; also Acteon and the Colonel; they produced 16,578 guineas. Great efforts were made by the most influential noblemen and gentlemen, members of the Jockey Club, to impress on her majesty's ministers the policy of retaining the establishment, but they were unavailing. From that period till recently, the Hampton Court paddocks were unoccupied by royal property. A small but valuable and splendid stud of mares has again been formed, and we may hope to see the establishment increase; considering the great prices which were realized by the sale of the yearlings, under the insinuating hammer of Messrs. Tattersall, in June, 1854, the prospect is most flattering. A colt, by Irish Birdcatcher, out of Jamaica, was knocked down to Mr. Howard for 1,000 guineas; a filly, by Bay Middleton, out of Stamp, to the same spirited purchaser, for 900 guineas; two other colts at nearly equal sums, to other persons. All the lots were disposed of at high premiums—suffice it to state, that eight colts and six fillies produced 6,199 guineas, exceeding by 810% the sum given for twenty yearlings, the property of the late king in 1837.

Voivode, a chestnut yearling colt, bred by Mr. Cookson, by Surplice, out of Mincemeat's dam, was sold by Messrs. Tattersall at Doncaster to Mr. Merry for 1,020 guineas. Such prices must have the effect of stimulating persons to devote their attention to breeding racing stock.

A stud farm on a large scale has, within a few years, been established at Rawcliffe, near York, upon the joint-stock principle; there is no doubt it will be a profitable investment to the proprietors, and an acquisition to the country. They are in possession of some stud horses of the highest repute,

including the Flying Dutchman, Chanticleer, Slane, and Connaught Ranger. Undertakings of a similar kind formed in different parts of the kingdom would be of great value in maintaining the character of our breed of horses, and in supplying the country with really useful animals. When the object is to breed for sale only, every exertion must be used to rear such horses as may be useful for general purposes in the event of their not being adapted to racing. Noblemen and gentlemen who breed for their own use on the turf generally direct their attention most especially to racing qualifications.

Near London, at Dudding Hill, there is a stud farm on a very extensive scale, the property of Messrs. Henry and Cheslyn Hall. It is conducted with the utmost liberality, and every department evinces the skill which has been exercised in the arrangements. The stallions are Harkaway, The Libel, Tearaway, Pitsford, Chabron, Lothario, Retriever, Ethelbert, Cleveland Shortlegs (a splendid animal of the breed which his name denotes), and The Wonder, an extraordinary trotter with splendid action. A morning devoted to the inspection of the stud cannot fail to be highly gratifying to sportsmen, and indeed to all others who are admirers of the equine species, and any person will be amply repaid if it is only in contemplating the perfect symmetry of one horse, Lothario. He is the Adonis of his kind, and similar perfections of symmetry can be traced to his ancestors, imparting an important example to breeders. His dam Moggy, and his grandam Active, both bred by the late Sir George Pigot, were strikingly beautiful; so also was his grandsire Sultan, and his great-grandsire Partisan. Giovanni, his sire, was a finely formed and powerful horse, and Filho da Puta, his paternal grandsire, was one of the best and truest-shaped horses ever foaled. They might, with great propriety, be designated the handsome family; Lothario's colour, a beautiful bay, is most attractive, and the prevailing colour with his ancestors was similar. These two coincidences of symmetry and colour serve to supply an example of certain characteristics which often descend from generation to generation, for it is acknowledged by breeders that the young stock will, in those respects, often resemble their grandsires or grandams, and even more remote ancestors.

The Duke of Grafton, at the conclusion of the past and at the beginning of the present century, indeed for many years, had one of the largest and by far the most successful studs of

the day. It is a fact worthy of notice, as it establishes the value of good blood, that many of the most fashionable and justly esteemed horses of modern times are descended in a direct line from his Grace of Grafton's celebrated mare Penelope, whose lineage can be traced to one of the royal mares of Charles II., and still further back to Place's White Turk, and the Byerley Turk. By investigating this mare's pedigree it will be found that, although she inherited the Arabian blood from Godolphin, and the Darley Arabian, strains of Turkish and Barb blood prevail over those of the Arabian. Thus we must trace the superiority of our horses to the legitimate source, and it may be taken as a general maxim that our best horses are those whose pedigrees are continued from the earliest periods. There is a circumstance connected with the produce of Penelope worthy of observation: the first seven of her offspring, and which were by far the most valuable, were by one sire, Waxy. From that horse she gave birth to a filly, which was not named, and put to the stud; then came Whalebone, Webb, Woful, Wire, and Whisker, all superior animals. The next was Waterloo, by Walton; Wildfire, by Waxy, sent to Germany; and Windfall, by the same horse: she then had Whizzig, by Rubens; Waltz, by Election; and Wamba, by Merlin. Whalebone and Whisker were winners of the Derby in their respective years, and subsequently the progenitors of several horses of the highest pretensions. The produce by Walton, Rubens, Election, and Merlin, were very inferior to those by her first partner. A gentleman, whose experience in breeding race-horses was extensive, and who was much disposed to penetrate into the mystic recesses of nature, was wont to declare that the sire never ought to be changed unless under uncontrollable circumstances, alleging that a mare having stock by different horses would give birth to succeeding foals bearing resemblance in some points to her former partners. Without pronouncing the theory to be correct, there may be some foundation for it. Descendants from Penelope will be recognized in the blood of Camel, Defence, Sir Hercules, Irish Birdcatcher, Bay Middleton, Touchstone, Cotherstone, Faugh a Ballagh, Alarm, Orlando, Cossack, Hero, and the Flying Dutchman, all acknowledged as very superior horses on the turf; the two last-named have yet to establish their fame in the stud. That very extraordinary good creature Catherina was a grand-daughter of Penelope. The same strain of blood takes a still wider range by including Partisan, also bred by the Duke of Grafton. This horse was by

Walton, his dam Parasol own sister to Penelope. Alarm combines this excellent genealogy in a twofold degree, without so near an alliance as to be objectionable on the score of consanguinity.

We must not, however, award all the merit which the English race-horse of the present time possesses to this one source; for it must be acknowledged there are many others. Orville may be mentioned as a sire of very high repute; his pedigree can likewise be traced to one of the royal mares of Charles II. Many very celebrated horses are descended from Orville, among which stand foremost in review his son Emilius, and his grandson Priam, both Derby winners. Unfortunately, the latter horse was sold to go to America, but not before he had left traces of his sterling worth. He was the sire of Miss Letty, Industry, and Crucifix, each of them winners of the Oaks. Cossack and Hero also claim alliance to him. The celebrated mare, Alice Hawthorn, and the dams of Voltigeur and Frantic, possess the Orville blood, to which a numerous family may be added by reference to the stud-book.

CHAPTER III.

VARIETIES OF ENGLISH HORSES.

THE RACE-HORSE.

THE English race-horse is undoubtedly the finest animal of his species in the world. In swiftness and energy he surpasses even his Arabian progenitor, though on the burning sands of the desert, to which not being acclimatised, he might not be equal in point of endurance. He is always distinguished by the beautiful head of the class from which his ancestors sprung; this being as finely set on a neck of faultless contour. His oblique shoulders give as good earnest of strength as do his well-formed hind legs of speed. By the sculptor, perhaps, the legs from the knee downward might be pronounced unfit for the *beau idéal* of a perfect animal, yet this, though admitted by judges to be sometimes the case, is, after all, a matter of little consequence. Certain it is, that whenever the English race-horse has contended on fair ground with the finest Arabian breeds, he has invariably come off con-

queror, even though he may be by no means the finest specimen of his own class. So marked is his superiority over all European breeds, that it is customary on the English course to allow any foreign horses a considerable advantage in the weight they carry, but to no purpose, as they seldom succeed in carrying off the prize.

The climate of England has no doubt almost as much to do with our breed of horses as has the purity of their pedigrees. When an English race-horse leaves his native country for the continent, he is observed to degenerate, and his progeny also; though whether this is the case with English horses exported to Russia, we have no perfect means of ascertaining. The influence of climate is also evinced in the great success of some English horses which were known not to be of perfectly pure blood, though the latter is invariably insisted on as the requisite of a first-rate horse.

The history of the racing-colt (so says the author) in the present day has in it much that is interesting, and a great deal that is in the highest degree disgraceful to the turf. The first six months of the racer are usually spent happily enough: he is with his dam, well sheltered, well fed, and every want anticipated, in order that his frame and his powers may be fully developed in the least possible time. Then comes the spirit of curiosity and of speculation: the owner is anxious to know whether his stock will be worth the expense of keeping, and they are prepared for being broken in soon after they have attained the age of twelve months; the mouth is begun to be formed, and before the succeeding autumn has closed in they are under the care of the training-groom.

The system of management is much improved. The training-groom possesses more real knowledge of his business, and there is far more humanity exercised than there used to be. In a very great proportion of the training-stables the full exertion of the power and speed of the colt is oftener obtained by kind usage than by brutal cruelty.

By-and-by comes the day of trial. The course is a short one, usually half a mile, but their fleetness and their strength are put fully to the test. This is occasionally repeated, in order that the trainer or the owner may be put in full possession of the powers and promise of the animal. At two years old the course is sometimes lengthened to three-quarters of a mile, and the speed is again fully tested.

At the first glance there appears to be some indiscretion in this; but the system must be examined. It must be inquired whether it is not wrong to call thus severely on the

power of any animal before the period at which its strength is developed; and whether the horse so treated can attain the state of perfection for which he was designed. He may exhibit strength and speed extraordinary for his age, but is he able to sustain the reputation that he acquires? His bones not having acquired their proper strength, and the muscles not having attained their full power, is it not reasonable to expect that at no remote period he may deceive his backers and be publicly disgraced; or is it seen that he gets old, although not arrived at the pride of youth, and is he withdrawn from the course? These questions will be more diffusely discussed in future pages.

It must be conceded, that if another year were granted, and the general date of the appearance of the young horse on the course were three years instead of two, the spirit of sheer gambling would be somewhat curtailed; many a good horse would be saved from the sad fate of those that are cast; and the owner would rarely be out of pocket.

On a fair view of the turf, however, there is considerably less cruelty exercised than there was thirty years ago. The training for, and the running of the four-mile courses, was accompanied by a great deal of barbarity. The number of those which die in the training, or in the running, is materially diminished. There are numerous accounts of the horse dropping and dying in contesting the four-mile course, and sometimes there were more outrageous heats than these. The starting-post of the *six-mile* course once stood near Six-mile Bottom at Newmarket. The horses are not so much punished in their running as they used to be. No jockey of the present day would disgrace himself by the atrocities that were formerly committed. It is now understood that, when a horse is exerting the utmost extent of his stride, and is straining every muscle and every limb from a natural principle of emulation, the working of the bit, or the moderate application of the whip or spur, may keep him up to the mark; but when he has wound up "each corporeal agent to the terrible feat," the infliction of sudden torture will necessarily disturb the harmony of action, and throw the animal quite abroad. Many a race has been lost by the infliction of wanton cruelty. A bad-tempered horse immediately *shuts up*. He is sure to abate or lessen his exertion if he is severely punished when doing his best. The owner or the jockey will, however, be the best judge of the proper manner of riding in particular cases.

THE HUNTER.

The author says, the hunter used chiefly to differ from the road-horse in standing an inch or two higher, and possessing more blood. He was at least three-quarters bred, with small head and thick neck, and therefore light in the hand; the crest firm and arched, the jaws wide, and consequently the head well set on, and the mouth light and pleasant. The forehead was higher than that of the racer, and although the shoulder was somewhat thicker, the saddle was in its proper place. The barrel was rounder than that of the race-horse, that there might be more room for the lungs to play when the pace was becoming distressing; the leg was shorter and deeper; the pastern shorter, yet retaining considerable obliquity; and the foot sound; the body short and compact, the loins broad, the quarters long, the thighs muscular, and the hocks well bent and well under the horse. This was the hunter of former days, that would carry his master to the covert side, and keep his place in the field during a run of two or even four hours, and find his way home again unhurt and not over tired.

It is not every good and fleet horse which will make a good hunter. He may have strength and vigour for a long journey, and yet not be able to bear the shocks and strainings of the chase. There never was, says Captain Brown, a long limber-legged horse that was able to gallop down steep hills, and take bold leaps with a weight on his back, without sinking or foundering.

A horse should never be used for field-sport till he is in his sixth year, as his joints will not be well knit, nor his tendons sufficiently tenacious, till that period. A horse in his fifth year may occasionally be ridden out with the hounds, but if he is only moderately worked till the following year, so much the better.

It is now, however, the fashion to breed the hunter chiefly for speed; he therefore is a very different kind of horse from what he was. He is the race-horse somewhat more stoutly bred. The hunter of the present day is comparatively seldom ridden to cover; a hack conveys the sportsman, and a second horse is provided, entrusted to some groom who knows the country, and brings him to the spot where he is most likely to meet the hounds during the chase, which may be then generally prolonged without distress to either horse.



THE WEIGHT-CARRYING HUNTER.

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THE STEEPLE-CHASE HORSE.

The spare horse, however, is not always forthcoming when wanted, for the chase may have taken a contrary direction to that which was expected. Then comes a duty of which the horse will not remind the rider until his strength is rapidly wasting, although the attentive and humane sportsman can scarcely overlook it. His action becomes feeble, the flanks heave convulsively—there is a peculiar convulsive action of the diaphragm. These will be sufficient indications of distress, and no horse should be urged on after he has unequivocally exhibited them. It would be an act of injustice and cruelty for which no excuse can be urged. The administration of some restorative, and leading slow to the nearest stable, are the best alternatives at the moment of distress.

There is one abuse of hunting that has lately crept in, chiefly advantageous to horse-dealers, and established for their peculiar purposes, but which is an outrage to humanity—the steeple-chase. That these noble animals should be urged at their utmost speed over all sorts of ground, and with every dangerous obstacle in their way, is a practice unsanctioned by any good or legitimate object, and which should be put down by the expression of universal detestation.

During the sporting season the hunter is well fed, and with that kind of food which contains a great proportion of nutriment in little compass. A small quantity of hay, rarely more than eight or ten pounds per day, is allowed, and less than that on the day before work. The quantity of corn may vary from ten to fourteen pounds daily. There is a prejudice in most hunting stables, and probably well founded, against chaff, and it is seldom that the oats are bruised, certainly not so frequently as they ought to be. Gruel and a bran-mash is given after a day of hunting; and mashies are serviceable at other times when there has not been more than ordinary work, provided that at least two days are suffered to elapse before the horse is again taken into the field.

The hunting season having passed, the horse used to be turned into the field as soon as the grass had begun fairly to sprout, and there, with his feed or two feeds of corn daily, and his hovel, into which he might retreat from the sun or the storm, he remained until the middle of June, or the flies began to be troublesome. Of late years, however, it has become the fashion to confine him to his box, whence he stirs not except for an hour's walking exercise, until he is taken into training for the next winter's business.

The training of the hunter for this work is a simple affair. It is, by means of exercise and of physic, getting rid of all superfluous fat and flesh, without debilitating him. The physic is useful, in moderate doses; but the chief thing is gradually to accustom him to the exertion of every power that he possesses, without too much hurrying his breathing, or overstraining him.

The training of the race-horse is of a similar character with that of the hunter, but it is far more severe, for his strength, his speed, and his endurance, must be tested to the utmost. The hunter has to carry his rider gallantly and well through perhaps a long burst, and if he tires, and the sportsman has the good sense and humanity to cease to urge him on, the greatest evil is some temporary suffering to him, and disappointment to his master; but if the race-horse breaks down, or if his capabilities have not been accurately calculated, the most serious loss may be sustained. Thence arises the necessity of testing every power in the preparation of the race-horse; and thence, too, it sometimes happens, from injudicious management, that young horses break down and become perfectly useless in their training.

THE HACKNEY.

In point of real utility this is the most valuable of the species, and it is difficult to be met with in perfection, which, of course, includes cheapness as well as ease and safety of action. Many faults may be tolerated in the racer or hunter, but if the former have speed, and the latter bottom, this may be overlooked, in consequence of the animal being otherwise well adapted to the purpose for which he is intended. The racer is frequently vicious, and the hunter scarcely less so—both perhaps from injudicious or cruel treatment; but next to safety, it is requisite that the hackney should be quiet and docile, always ready to identify his movements with those of the rider, whether he be in action or standing still waiting the transaction of his owner's business. By kind treatment a horse acquires a knowledge of his owner's movements almost as readily as a dog, and is as ready to acquiesce in them; so that his teaching in this respect devolves on his owner as much for his own interest, as for the perfection of his horse.

The degree of substance which the hackney should possess must depend upon the weight he has to carry, and the consequent degree of exertion required from him. A country,

the surface of which is irregular or hilly, will require strength and action as primary requisites before speed, or at least to be combined with it. It is no doubt agreeable to possess a splendid horse; but it is questionable whether his services will be superior to those of one of less pretensions. It is by no means essential that he should carry his legs too high, so that he goes clear over the ground. The height of the hackney should be from fourteen hands and a half to fifteen hands and an inch, having a body of a compact form, with his joints well knit.

The head of the hackney should be small, and the neck inclining to be thin towards the head. The head will be then well set on, and it will form that angle with the neck which will give a light and pleasant mouth. This, however, depends much on the rider, who, if he do not feel his mouth lightly, may easily spoil its sensibility to a light touch, and may entail upon himself a great deal of unpleasant attention to his horse's movements. The animal, when well managed, is accustomed to depend on his rider for his guidance; and if the rider have not as much sensibility of touch in his hand as his horse has in his mouth, he is not in a situation to give him an immediate check, so as to prevent accident to either. Besides which, a light touch always gives a graceful position to the horse's head, and is eminently conducive towards ease and safety of action.

The shoulders of the hackney, compared with those of the racer, or even with those of the hunter, should have a little more substance or thickness, and they should slope backwards at a considerable angle from the point of the shoulders to the withers—at which point there should be an evident degree of thinness and elevation. A well-shouldered hackney will, when standing, have his forelegs perpendicular to the ground. Hence it is essential to judge of the animal as well when standing as moving. Observe also, when walking, whether he place his forefoot more forward than the shoulder-point when he puts it on the ground. If his shoulders are upright, he cannot do so; and if this be not the case, he will always do so, and should be rejected, as not having a sound footing when in motion.

He should have the bones beneath the knee broad and flat, as much so immediately under the knee as they are above the fetlock. The forelegs should be perfectly straight, for a horse which stands over on his knee, although but to a slight degree, will, from many a trifling cause, especially if overweighted, be liable to fall. The arms, too, should be compact

and muscular, exhibiting considerable bulk in proportion to the height of the horse.

The foot is of the first importance in a hackney. In a few words, it should be of a size evidently corresponding with the general bulk of the animal. The feet should neither be too hollow—showing a tendency to contraction—nor too flat, the consequence of disease, exposing the sole to continual bruises.

As his general safety of action may be judged of by his shoulders, so may his soundness be estimated by his legs and feet. The foot should be open at the heels, and free from corns and thrushes.

The pasterns should be so united at the fetlock that the feet may neither turn inwards nor outwards. Of the two faults it is better that the feet should turn a little outwards, so that they do not strike against his fetlock, than that they should turn inwards. The pastern should be short, with sufficient obliquity to give pleasant action, but not enough to render the horse incapable of the wear and tear of constant hard work.

The last test is to mount him, first looking if his shoe is unnecessarily worn at the toe. If he put his feet flat on the ground, he is worth having; if he do not so place them, but drive his toe into the ground, reject him; for the odds are, that before long the rider will have to measure his length on the ground, as the least obstacle will cause the horse to trip. The condition of the shoe is, however, a pretty good criterion of this. If the toe be greatly worn, whilst the heel is not worn at all, a judgment may be formed that the horse will be unsafe.

The hackney is most valuable for the pleasantness of his paces, his safety, good temper, and endurance. If he is equal to eight or ten miles an hour, the owner should be satisfied. Horses that have extraordinary fleetness on the road are not always pleasant to ride, and it is their too usual fate to be disabled, and comparatively worthless, when the slower horse is in his prime.

The early life of the hackney, perhaps, differs a little from that of the farmer's horse: he is better taken care of during the first winter; he has a hovel in which he may shelter himself, and has an allowance of hay, and perhaps of corn. The winter passes away, and he has suffered little; and during the early part of the year he gets his new coat, and is full of spirits and vigour. In the third year comes the breaking-in; and, with occasional exceptions, he suffers

not much from the ignorance and brutality of the breakers. The exceptions to this, although they may be comparatively few and far between, should not be suffered for one moment to exist. The hackney is destined for the immediate service of the master, and much of his after character, and the pleasure derived from him, depend upon the manner in which the breaking is performed. There is, as in the inferior horse, one thing absolutely indispensable—the colt, previously almost as free as the air, must be taught to yield up his will to another, and to obey with alacrity his master's bidding. Generally speaking, this is easily accomplished. It demands only a certain degree of firmness, mingled with kindness, and this task is, in the majority of cases, readily accomplished. If the animal is at the first somewhat disposed to resist, mingled firmness and kindness will rarely fail to obtain a victory.

The faults which will oftenest require correction in the hackney are fear and restiveness.

Gentle treatment will rarely or never fail to overcome fear. The disinclination of the colt to come into contact with the object should be quietly but firmly resisted, and then, by succeeding in persuading him that there is no ground of alarm, an unpleasant and dangerous habit is broken at once. The pretended fear which the colt will occasionally exhibit is a species of affectation that may be as readily, and must be very determinedly, resisted. The quadruped has occasionally as much affectation as the human being, and it is fortunate for him, as well as his owner, when this is put down with all possible promptness.

Restiveness is defined, by the author of a recent work on "Humanity to Brutes," to be "a compound of mischievousness and stubbornness, the will of the horse being directly opposed to that of the rider." "Now," says this writer, "the most zealous advocate for the humane treatment of animals will readily admit that the man must be master and the quadruped must obey. The only question is as to the means of enforcing obedience. Correction may occasionally be necessary, but the grand secret is to foil the horse with his own weapons. If severity is resorted to, it should not be until all other means have failed. There should be no trial of strength between the biped and the quadruped, for that will probably again and again terminate in a drawn battle which will be renewed on the first opportunity. The horse may fret and exhaust himself, but the rider must be quiet. If he will stand still, he should do so until he is tired, or

he should be made to walk backwards. If he endeavours to turn round, he should be made to accomplish a whole instead of a half circle, so that he shall be precisely where he was before. Nineteen horses out of twenty will soon be convinced of the inutility of a struggle like this, and after having repeated the experiment two or three times, with precisely the same result, will submit, and become useful and attached servants. If, however, he continues a brute, he must be got rid of, or proper coercion must be applied."

THE CAVALRY HORSE.

The character of this horse differs materially, according to the nature of the service required, and the taste of the commanding officer. The horses of the household troops are, probably, not so large and so heavy as formerly; but there are no foreign troops that can resist their charge. At the battle of Waterloo they were highly instrumental in deciding the fate of the day. The heavy cavalry are generally more than half-bred; the lighter have still more blood. In training the cavalry, as well as the race-horse, a great deal more is to be done by kindness: the system of management is now materially altered, and many cruel contrivances of former days are no more to be heard of. The writer of this sketch has had frequent opportunities of seeing the comparative ease with which the horse is now taught its duty, the delight with which he seems to practise every manœuvre, and the affection that he cherishes for his own rider, and also the trooper for him. Their affection for their companions is also very strong.

Opinions differ as to the kind of horse best adapted for a charger. Formerly the cavalry were mounted on strong, heavy horses, being the Flemish stock crossed with our own. Lighter horses were, however, found more serviceable in wet marshy tracts of country. The true qualities of a troop-horse should resemble those of a hunter. Compact in form, possessing fine action, small ears; neck deep and arched, breast large and swelling, ribs full and finely bent, chine broad and straight, tail broad and flaccid, thigh swelling and muscular, leg broad and flat, and pastern short.

THE COACH-HORSE.

The better kind are the Cleveland bays, mostly bred in the country between Northumberland and Lincoln, and particularly about Cleveland and the vale of Pickering. The Cleveland mares, at least those that have been kept for breeding purposes, have materially improved within the last thirty or forty years. They are taller, with better withers, yet sufficient roundness of the barrel, and flatter and deeper legs. These mares are crossed by a three-part bred horse, or sometimes by a thorough-bred one, that has sufficient substance and height, arched crest, and high action. The foal is either the tall coach-horse—the true Cleveland bay—or he is the four-in-hand, or curricule-horse, or sometimes the hunter, and of the best description, or the better kind of saddle horse. If the sire is only half-bred, we have the post-chaise or coach-horse, the hackney, and the horse of common work, the worst of mongrels.

Dealers at the proper season attend the fairs in this district, and every part of the kingdom is thence supplied with horses for show, and to a great degree, for usefulness. Even the royal stables thence obtain some of their chiefest ornaments.

The produce of Cleveland mares is a coach-horse of high repute, and likely to possess good action. His points are, substance well placed, deep and well-proportioned body, strong, and clean bone under the knee, open, sound, and tough feet, with fine knee action, lifting his feet high. The full-sized coach-horse is in fact an overgrown hunter.

The old Cleveland horse is almost extinct, and his place supplied in the manner just described. The Suffolk Punch, the product chiefly of Suffolk and some of the neighbouring districts, is regenerated, but is a different sort of animal to the breed of olden times. He usually varied from fifteen to sixteen hands in height, and was of a sorrel colour. He was large headed, low-shouldered, broad and low on the withers, deep, and yet round chested; long in the back, large and strong in the quarters, round in the legs, and strong in the pasterns. He would throw his whole weight into the collar, and had sufficient hardihood and strength to stand a long day's work. The pure breed has, however, passed away, and is succeeded by a cross between the half or three-parts bred Yorkshire with the old Suffolk. He is taller than the former horse, somewhat higher and firmer about the shoulders,

with sufficient quickness of action and honesty to exert himself to the utmost at a dead pull, whilst the proportion of the withers enables him to throw immense weight into the collar. The encouragement given by the Royal Agricultural Society of England for horses of this class has been the cause of considerable increase in their numbers.

Another breed is the heavy draught-horse, found usually in the line of country from Lincolnshire to Staffordshire. These are often purchased by the Berkshire and Surrey farmers at two years old, worked moderately until they are four—earning their keep during the whole of the time—and then sent to the London market at a considerable profit.

A dray-horse should have a broad chest, thick and upright shoulders, a low forehead, a deep and round frame, the loins broad and high, the forearms and thighs thick, the legs short, the hoofs round, the heels broad, and the sole not too flat. The largest of these horses are used as dray-horses, the next as waggon-horses, and a smaller variety, with more blood, is employed by the undertaker. The larger ones—the dray-horses of the metropolitan and other brewers—are adapted more for parade, and shown more to gratify the ambition which one brewer has to outvie his brethren, than for any peculiar utility. They are certainly enormous animals; but they eat their full share of provender, and in hard and continued work they would be comparatively beaten by an equal number of hardy muscular horses much lower in stature.

Until the establishment of the railroads, the stage-coach horse stood high in point of utility and value. In conducting a racing establishment, it would soon be perceived what colts would train on, and what would ultimately break down; and, except there is much neglect in the management of the establishment, the unsound and weak-legged ones were sold, and a considerable proportion of them found their way to the fast coaches. They had the requisite speed, and strength enough to last for a considerable time. A great improvement also, either from fashion or good feeling, took place in the management of the stage-coach horse. He was no longer half-starved, as well as over driven, but sufficiently fed, and nothing exacted from him but his own proper daily labour, while he was always fully equal to, or above, his work. The consequence of this was, that he required little urging forward by the torture of the whip; and there was a marked change in point of humanity in the conduct and character of the driver. Every one accustomed to travel in the public

carriages will cheerfully and thankfully acknowledge the improvement that had taken place in this respect.

The length of the stages was materially diminished; and the proprietors having one horse in four always at rest, each of them had the advantage of one rest day in four. Nimrod, a competent judge in these matters, has asserted, in his amusing work on "The Chase, the Turf, and the Road," that "no animal toiling solely for the profit of man leads so easy and comfortable a life as the stage-coach horse. He is sumptuously fed and kindly treated; he has twenty-three hours in the twenty-four of rest. He is, except from his own fault, almost a stranger to the lash; we rarely see him with a broken skin; but we do often see him kicking up his heels when taken from his work, after having performed his stage of ten miles within the hour."

This pleasing picture, however, too frequently had its shades. The system of overworking and over-feeding, to which the horse was subject when he came on the road, was undermining his constitution; every disease in him took an inflammatory character; his legs were peculiarly liable to accident, and strains and other evils frequently occurred, which required a peculiarly severe mode of treatment, and the horse was unavoidably made to suffer dreadfully. Perhaps the evil was never perfectly remedied. The animal was never competent to undertake his former work; but he was attached to the heavier coaches, or transplanted to those concerns of atrocious cruelty, the night coaches. Then commenced that loss of character, and diminution of usefulness, and increase of misery, which were the fate of thousands of horses every year. This is a picture of the stage-coach horse on the bad roads, and under indifferent management.

Railroads have now been introduced in almost every direction, and the quickness and economy of the journey have, in many parts of the country, comparatively destroyed the business of the postmaster. The horses passed into other hands, and sank to more degrading and painful labours; but of late their sky is again somewhat brightening. The exportation of horses of this class to the Continent has increased to a degree that never could have been anticipated. These horses are destined for the cavalry service of different countries; they are such as could not be procured on the continent; and the work that will be exacted from them will not, in the majority of instances, ever develop their latent imperfections.

Of the sad cruelties practised on the hackney-coach horses, on the day and night cab-horses, and on those that belong to the costermonger and inferior tradesman, nothing is here recorded; but if the dog, a beast of draught in so many other countries, is—we scarcely know why—not allowed to be employed in this occupation, there ought to be some strong enactments to protect those poor old debilitated, half-starved animals on whom the whole labour falls.

There is only space for a few remarks on some of the smaller breeds of horses.

THE GALLOWAY.

The Galloway derives its name from the district in which it is bred, in the south of Scotland. There are records of it as early as the time of Edward I. Dr. Anderson thus describes one of them:—"I possessed one of these horses when a boy. In point of elegance of shape it was a perfect picture, and was perfectly gentle and manageable. It moved almost with a wish, and never tired. I rode this little creature for twenty-five years, and twice in that time I rode him 150 miles without stopping, except to bait, and that not for above an hour at a time. It came in at the last stage with as much ease and alacrity as it travelled at first." The Galloway was about fourteen hands high, of a bright bay or brown, with black legs, small head and neck, and peculiarly deep and clean legs. Its qualities were speed, stoutness, and sure-footedness. One of them is said to have performed the extraordinary feat of 1,000 miles in 1,000 hours.

The true Galloway is now seldom met with. It was destroyed in the fruitless attempt to increase the size of the animal, and to retain all its peculiar good qualities as a pony. The small horses that are sold under the name of Galloways are mostly from Wales or the New Forest, and still retain many of the good qualities belonging to Merlin and to Old Marske. The Welsh pony is often a beautiful animal, and can scarcely be tired. The New Forest evinces the source whence he sprung, by his spirit, speed, and endurance.

The Exmore ponies are far from being so handsome as the Welsh, but they are hardy and useful. The Dartmoor ponies are still more deficient in beauty of form, but well suited to the country in which they are bred.

The Highland pony partakes of all the hardihood of the others, but is slower and somewhat unpleasant in his paces. The Shetlander is the most beautiful of the inhabitants of the



THE SHETLAND PONY.

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northern islands, although of a very diminutive size, varying from seven and a half to nine and a half hands in height. He is described as having a small head, a good-tempered countenance, and a short neck becoming gradually fine upwards. The shoulders are low and thick, the back short, the quarters expanded and powerful, the legs flat and fine, and the foot retains its natural form even in old age.

THE CART HORSE.

Although we have incidentally spoken of one or two varieties of the draught-horse, our volume would not be complete as a "Book of the Country," did we not enter more particularly into a description of agricultural horses. The English cart-horse varies in almost every county, but one particular characteristic is, or should be, activity, in conjunction with such a degree of weight as will give them more physical power in draught.

The cart-horse should not be more than sixteen hands high, with light well-shaped head and neck, short ears, full chest, large shoulders, low in front, the rump being higher than the forehead, back strong and compact, legs short and flat, fillets large, and pliable in the joints.

For heavy waggon draught the horses should be large, provided the size arises from build, and not from flesh alone, which they will be if fed on sloppy meat—this increasing the cellular and adipose matter, without nourishing the muscular fibre.

The object of breeding draught-horses is to increase strength; and this is not best accomplished by increasing size, a compact horse of fifteen hands and a half or sixteen hands high being frequently more powerful than one of seventeen. Cart-horses, when well treated and moderately worked, live to a great age, instances being on record of their reaching forty, though regularly worked every day with younger horses.

European horses, which have not Eastern blood in their veins, are widely different in their physical structure from the Asiatic horse. Their bones are round and porous, their joints thick, heads clumsy, bodies bulky, chest fleshy, legs thick, tendons relaxed, hair coarse, and hides spongy. This arises from difference of pasture no less than of breed, the dry pastures of the East being well suited to develop the superior powers of the animal.

It would be a benefit to the farmer and the country at

large if the huge cart-horse were banished from the land. The vast improvements which are annually introduced by the invention of machinery will, there is every reason to hope, enable the agriculturist to dispense with the use of horses on his farm to a very considerable extent; indeed, a reduction of their services is already accomplished. The heavy, lumbering cart-horses will eventually be universally condemned as useless, and the breeding of them must receive a salutary discouragement.

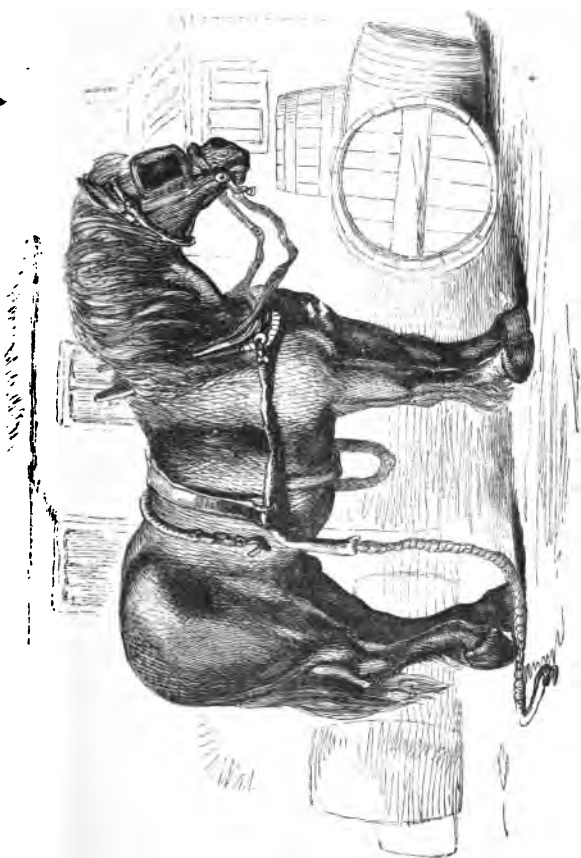
THE CLYDESDALE HORSE

Is met with in most counties north of the Tay, and is a favourite horse in England. These horses are strong, hardy, and steady, yet active. Their stature is from fifteen hands to sixteen hands and a half. As husbandry horses, they are superior to most others. The breed is originally from Flanders stallions and Lanark mares, and was formed from the experiments of the Duke of Hamilton.

The Clydesdale horse is lighter than was the old Suffolk punch, and with as much bone as the latter, is more shapable; his neck is longer, his limbs clean, straight, and sinewy, and his step firm and active. He is capable of great muscular exertion, is good-tempered, and not being unwieldy, is no burden to the soil, and therefore well adapted to the plough.

THE DRAY-HORSE

Is the largest of the species, standing frequently upwards of seventeen hands. He is unquestionably a gigantic animal, but by no means an useful one. They form the principal obstruction in the streets of London; their slow movements, and the ponderous vehicles to which they are attached, compelling all carriages in their rear to adopt their own pace, to the great inconvenience of the public. Notwithstanding that in our day it is common to see waggons containing double a dray load drawn by a couple of lighter horses at the pace of an omnibus, the waggon being placed on omnibus springs, the London brewers persist in the use of these unwieldy animals, further loaded with fat by the sloppy food given them to increase their sleekness, and decorated with fine harness. The cost of such a stud must be altogether disproportionate to the labour performed, which all must admit who have seen the insignificance of the load, as compared with the elephantine proportions of the team which draws it.



THE DRAY HORSE.

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The chief points of these horses are as follows:—broad chest, low forehead, round barrel, broad and high loins, ample quarters, shoulders thick and upright, forearms and thighs thick, legs short, hoofs round, heels broad, and soles not too flat; in short, as nearly as possible, the proportions of an elephant. The physical power of such horses is in an inverse ratio to their unwieldiness, and the more bloated they can be bred, the higher the price which the vanity of their employers is willing to pay for them.

THE FARMER'S HORSE,

Half cart-horse, half hackney, is seldom perfect in both capacities; his paces are slow and stiff, whilst, from depending on the collar to keep him up, he is apt to come down when ridden. The rider, however, being aware of this peculiarity, and not requiring speed, generally contrives to keep him on his legs.

When used for drawing and riding, the farmer's horse should be upwards of fifteen hands high, with a shoulder thicker, lower, and less slanting than the hackney. He should be stout and compact, and if with a little blood, so much the better. He should not be put to the heaviest kind of drawing, so that his weight should not be more than will allow of tolerable speed.

The farmer's horse, ridden occasionally to market, but more employed for draught, should not be the slow, bulky animal of former times, but a slight degree taller than the road-horse, with his shoulder thicker and less slanting, stout and compact, and having a little, and but a little, of the blood-horse in him. A good judge of the horse has said, and it sums up the character of the animal, that "he should have weight enough to throw into the collar, and sufficient activity to go over the ground." The farmer's horse may not be often over-fed, but he is seldom overworked, and, except in the hay and corn harvest, his employment is easy; but when his powers begin to be impaired—when the pleasure or the profit of the master is interfered with—when, from accident occurring in his master's service and even attributable to the master, he becomes weakened or lame—what then is his destiny? He is sold to the first purchaser—he goes to a place of far harder work and less comfort—and he has to wear out the rest of his life, his food curtailed and his work cruelly increased. This is one of the greatest blots on the character of the farmer.

The colours of the horse are very variable, the principal being as follows:—*Bay*, of many shades, but always distinguished by black manes and tails. *Gray*, of seven or eight varieties. *Dun*, of several shades, having for the most part a black list along the spine. *Roan*, is bay, black, or sorrel, intermixed with white hair. *Chestnut*, light or dark. *Piebald*, of two colours, one being white. Besides the colours enumerated, there are many others, as *grissel*, *sorrel*, *cream-colour*, *black*, *white*, *flea-bitten*, &c. &c.

White and cream-coloured horses were formerly as much esteemed by persons of high rank as the white elephant is in some portions of the East. George the Third had a great mania for white and cream-coloured horses, and always used a set of them for state occasions. The temper of the horse and his moral qualities vary as much as does his colour, but no doubt these qualities are much influenced by his early treatment; yet are good and bad qualities sufficiently hereditary to be guarded against in breeding, and some men even go so far as to state that they are the characteristics of distinct breeds; but for this there is, perhaps, no valid foundation.

CHAPTER IV.

STATISTICS AND PERFORMANCES.

THE very great increase which has taken place in the pursuit of racing, and in companionship the breeding of horses for that purpose, will be readily perceived by reference to the following table. It must be observed that the number of colts and fillies bred in the years 1800 and 1825 has been computed with considerable attention from the Stud-Book, and is, I believe, correct; but as errors will sometimes creep into such calculations, I must reserve for myself the apology of the conveyancer, "be the same more or less." The number of foals brought forth in 1850, 1853, and 1854, was obtained from the return made to Messrs. Weatherby.

A.D.	Colts.	Fillies.	Total.	Mares in the		Subscribers to the		
				United Kingdom.	Derby.	Oaks.	St. Leger.	
1800 ..	135 ..	130 ..	265 ..	605 ..	33 ..	24 ..	17	
1825 ..	312 ..	300 ..	612 ..	1,090 ..	58 ..	50 ..	88	
1850 ..	386 ..	387 ..	773 ..	1,335 ..	205 ..	128 ..	95	
1853 ..	483 ..	458 ..	941 ..	1,471 ..	195 ..	141 ..	99	
1854 ..	511 ..	482 ..	993 ..	1,601 ..	217 ..	156 ..	159	

The subscription to the Derby for 1856 closed with 217 nominations, and the Oaks with 137.

The proportionate increase in the number of foals, it will be seen, was great from the years 1800 to 1825, although the latter year was remarkable for the number of dead ones. This is observable in going over the pages of the Stud-Book, and was not confined to any particular studs or localities. There is a notice in the third volume of the circumstance in connection with the Earl of Egremont's mares, at Petworth; it relates that "some of the foals were opened, and it was supposed that their livers were diseased. Fourteen mares produced dead foals, and three produced unhealthy ones, which lived but a short time; and all the asses produced dead foals. The mares were in different situations, and with different keeping; but in general they were depastured upon a very high dry land, with a light soil of little depth, upon a bed of stone. They went their full time, or very near it and the foals were known to be alive within three or four days of foaling, and were fine and of full size." The foals bred in 1850 do not show so great an increase above those of 1825, as appears between the latter year and 1800, while the number foaled in 1853 exceeds the proportion. Thus it is very evident that the speculation of breeding race-horses, and racing, are making uniform progress. There are two circumstances in connection with the year 1825, which are worthy of notice. Although it was remarkable for the production of dead foals, it was also remarkable for the production of many horses of superior character; for example:—The Colonel, Zinganee, Vanish, Ballad-singer, Bessy Bedlam, Halston, Oppidan, and Little Boy Blue.

The average produce of mares may be estimated nearly in the proportion of eleven to eight; that is to say, eleven mares will bring forth eight foals. There are, as nearly as can be computed, in round numbers, besides thorough-bred mares, whose produce are not reported to the publishers of the Stud-Book, about fifteen hundred mares kept for the purpose of breeding race-horses. This appears to be rather a small proportion in comparison with the number kept for racing; and this circumstance leads to the conviction that very considerable discretion is exercised in selecting those only which have some claim to distinction.

According to the Racing Calendar, and other periodicals, there are one hundred and seventy-seven stallions. Some of these ought not to be used in the stud, because they are possessed of infirmities likely to be inherited by their pro-

geny; but their number is not so great as might be imagined; and to individualize them would be impolitic. It must be understood there are many other stallions, in all probability more than a similar number, of inferior character, whose services are confined to rural districts, where they are patronized by the farmers, which are not included in this estimate, numbers of which would not pass muster with breeders of race-horses, and ought not to be allowed to perpetuate their species among any classes; but they are very seldom advertised beyond their respective localities, and are still more rarely the progenitors of thorough-bred stock. From the number of stallions already enumerated, about half the foals of the year are the offspring of thirty sires-favourites, in consequence of their superior lineage, their successful performances on the turf, or honourable distinction in the stud. The following table supports proof of the progress made in the speculation of breeding, by giving the number of races won by the stock of fourteen horses of celebrity, in the years

1825			1852		
Comus	..	21	Lanercost	..	35
Filho da Puta	..	17	Birdcatcher	..	29
Phantom	..	17	Touchstone	..	26
Ardrossan	..	13	Venison	..	20
Catton	..	12	Cotherstone	..	17
Rubens	..	12	Faugh a Ballagh	..	16
Whalebone	..	12	Orlando	..	13
Whisker	..	10	Slane	..	13
Blacklock	..	9	Don John	..	12
Bourbon	..	9	Bay Middleton	..	12
Partisan	..	9	Epirus	..	11
Soothsayer	..	9	Pantsloon	..	10
Walton	..	9	Melbourne	..	10
Octavian	..	9	Alarm	..	9
<hr/> 168 <hr/>			<hr/> 232 <hr/>		

Thus we find, that in the former year there were 168 winners, and in the latter 232, the progeny of an equal number of horses. Surely this affords an argument in favour of the stoutness and constitution of the horses of modern days.

The subjoined list shows the number of foals from twelve celebrated stallions in 1853 :—

	Colts.		Fillies.		Colts.		Fillies.
Flatcatcher	24	..	20	Flying Dutchman	12	..	10
Pyrrhus the First	21	..	22	Gameboy	11	..	10
Birdcatcher	21	..	16	Epirus	11	..	6
Faugh a Ballagh	16	..	14	Annandale	10	..	7
Melbourne	15	..	8	Surplice	9	..	15
Iago	18	..	20	Alarm	9	..	3

In the first portion of these remarks, it was mentioned that an opinion has been promulgated with much industry, and supported with equivalent zeal, that our horses have degenerated, compared with those of our ancestors, in stoutness or endurance in running a distance; that they are incapable of bearing fatigue; that they are deficient in constitutional stamina—the ability to carry weight; and that they are subject to hereditary diseases, especially roaring. In evidence of these arguments, the performances of two horses, worthies of ancient date, the one called Black Chance, the other the Carlisle Gelding, have been extolled in the warmest terms. To arrive at correct conclusions, the most satisfactory course will be, that of making comparisons from indisputable data between the performances of the horses said to have possessed superiority over their descendants. The mere declaration of opinion, unaccompanied with proof, is not sufficient on this occasion. For the sake of brevity, and to render each item capable of ready comparison, a tabular form is chosen, in which the performances of the most celebrated horses of the early part of the eighteenth century are placed in juxta-position with an equal number of more recent date. The selection of the Carlisle Gelding and Black Chance is suggested, in consequence of their having been brought forward as specimens of superiority over any horses of the modern days.

	Commenced running at years old.	Races won.	Races lost.	Total of races.	Number of miles run in winning races.	Number of miles run in losing races.	Total.	Number of years on the turf.	Last year of running.
Carlisle Gelding...	5	25	9	34	160	68	228	13*	1731
Cinderwench	unknown	13	9	22	98	94	192	5	1735
Black Chance	5	25	5	30	172	40	212	10†	1746
Arthur O'Bradley	5	15	10	25	112	72	184	4	1749
Babraham	6	4	6	10	36	38	74	4	1749
Euphrates	3	42	57	99	153 $\frac{2}{3}$	154 $\frac{1}{2}$	308 $\frac{1}{2}$	10	1828
Liston	3	46	35	81	140 $\frac{1}{4}$	91 $\frac{3}{4}$	232	11	1834
Independence	2	40	44	84	96	89 $\frac{1}{2}$	185 $\frac{1}{2}$	10	1835
Venison	2	16	5	21	51	9 $\frac{1}{2}$	60 $\frac{1}{2}$	3	1837
Catherina	2	79	98	177	300	283	583	10	1841

* Did not run in the years 1720—1725 or 1726.

† Did not run in 1748.

Persons who are conversant with racing are well aware that it is impossible to form decided opinions concerning the superiority of horses without running them in public, or trying them in private with the most scrupulous exactness. As it is impossible to form positive opinions of the capabilities of contemporary horses till they have been tried, it would be ridiculous to hazard an opinion on the merits of horses in a race of any given distance of the early part of the last century compared with those of modern days, unless there appeared to be a vast disparity between them. Considering the points at issue, there is no difficulty in deciding on the majority of those faculties which give evidence of stoutness, endurance, constitutional stamina, and capability of bearing fatigue. As to hereditary diseases, we have no data whatever upon which any opinion can be formed. The arguments which have been brought forward in favour of the horses of olden times, with the Carlisle Gelding and Black Chance as examples, require some little detail to confute. It has been asserted that "the former had no rival in carrying all degrees of weights, in supporting heats, travelling, and constant running, and this maintained to an age seldom heard of." In searching the calendars for the purpose of forming the tables of performances, it was found that this horse ran on several occasions for selling stakes, at prices varying from eighty to twenty sovereigns—his value therefore was not highly estimated. Many persons imagine selling stakes are modern inventions, but they were in effect in the early part of the last century. On four occasions only this horse carried twelve stone. In a general way he carried light weights, varying from eight stone five to nine stone. Thirteen of his engagements were matches, and all racing men know full well that winning matches depends more on the judgment of the match-maker, than the intrinsic goodness of the horse. An animal that has been often beaten cannot with propriety be aggrandized by the title of "unrivalled."

The eulogist of the Carlisle Gelding has been equally ardent in admiration of Black Chance, concerning whom he falls into great discrepancies, which, however, it is not worth while to enumerate, with the exception of one mistake. Among other races won in 1740, is included one at Oswestry, where he is stated to have carried thirteen stone. There is no record in the Racing Calendar of his ever carrying more than twelve stone; he more frequently ran with ten stone, and sometimes with only nine.

"Arthur O'Bradley," says Mr. N. H. Smith, in his well

known work "Observations on Breeding for the Turf," "won as many plates as almost any horse ever did, at both high and low weights, and may be justly said to be the first horse of his time." He is, therefore, a fit subject for comparison. When his performances are placed against those of Euphrates, Liston, and Independence, they fall into the shade. Babraham is introduced more in consequence of his subsequent worth in the stud, than for his performances on the turf; in the former capacity he was distinguished far above the average of contemporaries. This also serves as an example, of which there are many modern instances, that a horse having won a great number of races is not invariably the most successful in his progeny: a horse that has won a moderate number of races, beating known good ones, is generally the most eligible to breed from. It is very generally considered that training horses to run at so early an age as two or even three years old must be injurious to them; that their joints and sinews, wanting maturity, must suffer and give way, consequently their racing career must be abbreviated. The means now-a-days adopted with foals from their infancy are calculated very essentially to obviate the effects of early training; the kind of food with which they and also their dams are supplied has the effect of producing early development, added to the almost imperceptible gradation of exercise which they are required to perform: these are subjects which were unknown to our forefathers, but they will be more fully discussed hereafter. The impression that this custom shortens the term of a horse's racing career will lose ground on reference to the table already given, which shows that out of five horses of modern times, three of them commenced running at two years old, and the others at three. Their continuation on the turf fully equals that of their ancestors, with the exception of Venison, whose three-years-old performances were so superlatively excellent as to render him worthy of especial notice. At that age he won twelve races, many of them at long distances, including five king's plates. Vans and railways not being in vogue, he travelled on foot 900 miles in the course of the year to perform his engagements. He ran third to Bay Middleton and Gladiator for the Derby, and I perfectly remember the remark made by his trainer, Mr. John Day, on the morning previous to that race. "I have a good horse," said he, "and he must be a very good one to beat him." Although Bay Middleton proved himself a better horse on that occasion, the subsequent running of

Venison thoroughly justified the estimate his trainer had formed of him. In the stud he attained still greater eminence, being the sire of Alarm, Cariboo, the Ugly Buck, Vatioan, Buckthorn, Kingston, Joe Miller, and Ticton, besides many others of good repute. In his running he evinced the most indomitable stoutness and soundness of constitution; inestimable qualities which he transmitted to his stock. He died when rising twenty years old, in December, 1852.

Regulus is worthy to be mentioned as a horse of great repute in his time. At six years old, he commenced his racing career by winning a plate of 50*l.*; in the same year he won six king's plates, and walked over for another; when seven years old he again won a king's plate, which concluded his performances on the turf. But the career of Venison must be acknowledged as more brilliant, especially if his age be taken into consideration. Like Babraham, Regulus was the progenitor of many valuable horses, and his blood is to be found in many studs of the present day. This affords another illustration to the remark recently made, "that a horse having won a great number of races is not invariably the most successful in his progeny."

The running of Euphrates must be familiar to many racing men. He rejoiced in long distances; and he possessed some eccentricities of temper, but for which he would have been allowed to perpetuate his species. When preparing him for his races, the usual apparatus, the sitting-muzzle, was dispensed with, because, from the frequent use of it in his early days, instinct warned him that a race was in contemplation, and he would become nervous; his capability of running long distances was, therefore, more remarkable. Every note of preparation on the eve of a race was carefully avoided, lest his susceptible and sagacious disposition should take umbrage. He had a peculiar habit, when in good humour to run, of hanging his tongue out of his mouth, by which indication many persons who were aware of his propensity were guided in their betting. He had thin and rather weak feet, yet he could run best when the course was in the hardest condition.

Liston and Independence were nearly related in the maternal line; and as they were both celebrated horses, their relationship affords a good opportunity for introducing a peculiar circumstance connected with breeding horses, where superior qualities have been almost exclusively inherited from the female line, as the male stock by the same sires has been, for racing purposes or breeding, of very little value.

This subject is worthy of so much consideration, that it must be referred to on a subsequent occasion. I will here confine it to the dams of Liston and Independence, both of them daughters of Sir Oliver. The dam of the former was called Olivia Jordan; of the latter, Stella. Olivia Jordan did not distinguish herself on the turf; five only of her produce, by thorough-bred horses, came to maturity, exclusive of Liston; and they evinced no pretensions to racing. This mare's produce were all bred by Mr. Tench, an eminent agriculturist, near Ludlow. Ambo, the sire of Liston, although a well-bred horse, never possessed any pretensions, either on the turf or in the stud. His services were principally confined to country mares, at a low price; and for that purpose he was not calculated, having wretchedly infirm bad fore-legs, which most of his stock inherited. Liston, however, was in that respect an exception; his legs were excellent—a perfection which he no doubt derived, through his dam, from Sir Oliver, who was celebrated for his great power and bone, with unequivocal soundness of limb and constitution. The excellences with which Liston was gifted may therefore be acknowledged to have descended from his dam.

Stella was bred by the late Earl of Stamford and Warrington, at Enville, in whose possession she produced Magician, by Soothsayer; Peter Lely, by Rubens; Fury, by Soothsayer; and Linnet, by Bustard. Sold to Sir John Egerton, Stella was then sold to Mr. Lacey, who bred Lark, by Rubens; Independence, by Filho da Puta or Sherwood; Colwick, by Filho da Puta; Caroline, by Châteaux Margaux; Midsummer, by Filho da Puta; and a colt, by Filho da Puta, or Vanish. Magician was an indifferent race-horse; but Peter Lely did credit to his ancestors by winning five races at three years old, beating several good horses, and at four years old gave proofs of much stoutness, in beating, on two occasions, the celebrity of the day, Master Henry; one was a race of two, the other of four miles. He likewise defeated Banker, and that very stout, honest mare, Luss, in a contest of four miles. Unfortunately for the turf, soon after this, Lord Stamford withdrew his patronage, and Peter Lely being sold, his services in the stud were principally confined to common mares, and very few of his progeny are enrolled in the pages of the Stud-Book. Fury, like her brother, Magician, not being able to race, only started twice; it would appear that the Soothsayer blood, in the language of breeders, did not “nick.” Linnet won some good stakes, after which she was put to the stud, but died

after producing one filly. Lark won only one race, when she was sold as a brood mare; but she bred nothing of any worth. Most of her produce were by Belzoni—a horse who was singularly unsuccessful as the progenitor of racers, although the sire of many very superior hunters. The superiority of Independence has already been noticed; but it may be necessary to remark, that although both Filho da Puta and Sherwood may lay claim to the honour of being his father, there is very little doubt that he was the offspring of the latter—a very moderate horse. The Sir Oliver blood must, in this instance, have the credit for perpetuating the acknowledged excellence for which Independence was distinguished. To enumerate all his conquests would entail unnecessary and irksome minutiae; but he inherited, in some degree, the only failing of his grandsire, whose temper was not the most amiable. When three years old, Independence frequently indulged the book-makers with bolting; at other times, when not “i’ the vein,” would not try to run—in racing *parlance*, would “shut up.” This induced his owner to adopt a remedy, and thus his services were lost as a progenitor.

Had Colwick been so fortunate as to have fallen into good hands, when he first made his appearance on the turf, there is no doubt he would have proved himself even a better horse than his public performances made him appear to be. It is not necessary to recapitulate the treatment he received. Naturally of a nervous and excitable temper, like his brother, Independence, it was rendered worse than in all probability it would have been under more fortuitous circumstances. When five years old, he was purchased by the Earl of Chesterfield; but his good qualities had been materially reduced, consequently he only won two races for his lordship. In 1837, he was consigned to the stud; and his progeny have been fairly successful. The other two fillies, the produce of Stella—Caroline and Midsummer—did not maintain the honours of their family; and the latter was sent to France.

Although the last on the list, Catherina stands prominently conspicuous for her performances. When the ability to carry weight is brought forward, this good, honest creature, must be introduced as a worthy example. She ran and won on many occasions with twelve stone on her back, and defeated Confederate at York, each carrying fourteen stone; and Confederate having previously gained distinction at high weights, Catherina’s victory was not a vague honour of beating a competitor of unknown merit.

It seldom happens that a mare which has been kept in training many years, however superior her performances, has conferred the same high character on her produce, and as yet Catherina is not an exception. Alecto, her dam, was a tolerably good mare, but by no means first-rate: she was sold at four years old by Mr. Houldsworth, who bred her, and her subsequent owner confined her engagements principally to running for country plates, very much in fashion at the time; she won several of them, but never beat horses of high repute. She ran frequently in 1827, when in foal, and the result was a colt by Banker, which was never trained. In 1829 she missed to Whisker, and the following year gave birth to Catherina. This circumstance is somewhat remarkable, for it very rarely occurs that mares having been trained and raced so severely ever produce foals of much value, until they have enjoyed at least five or six years repose: it confirms the assertion, that there are no positive rules for the guidance of breeders. The list of horses which have gained celebrity by very frequent running may be brought forward to the present day with good effect; and, with the exception of Catherina, their performances are equal to those already noticed. Clothworker, Rataplan, Virago, *cum multis aliis*, claim distinguished position on the scroll of fame. When comparing the performances of race-horses, it is not customary to compute the aggregate distances which they may run in their various races, and with contemporaries contending in races, for which the distances are nearly equal; it would afford no criterion; but in this case it is a different affair. The object is to determine whether the allegation is well founded—that the horses of the olden times were superior to those of the present day in point of stoutness, soundness, constitutional stamina, and the ability to endure frequent running. A reference to the table of performances already given sets that question at rest. The total number of races won by horses of modern times is also greatly in excess, and taking these two circumstances into consideration, the palm of merit for soundness, capability of frequent running, and stoutness must be awarded to them. Every owner of race-horses and every trainer knows full well that frequently running moderate distances tries the legs, and detects infirmities more unequivocally than occasionally running long distances. It is a very general remark that the old-fashioned distances of four miles have been reduced. That is true; but they have not all been so materially shortened, as not to afford good horses opportunities for

distinction : it cannot be denied but there are a vast number of races at short distances, yet there are also many two miles and upwards, and many three miles. Then, again, look at the immense increase in the number of races. There are, indeed, races to suit all sorts of horses, which are powerful instigations to the pursuit of breeding. The victories of the best horses of the present day are most decisive at long distances, and they in their turn passing from the course to the stud, still maintain their position as favourites. Two miles will determine the lasting powers of a horse if the pace be true from end to end. It has been clearly proved that the horses of modern times are superior to those of our forefathers on the points already named, but whether our best racers could beat Flying Childers, Regulus, Eclipse, Highflyer, and other worthies of their times, in contests of two, three, four, or six miles is a question that cannot be decided ; neither does it appear for practical purposes very important. On the capability of horses running distances, there are some mistaken notions touching the customs of our forefathers, and, from the fact of their races in general being four miles, it is conceived that their horses were more capable of running those distances than those we now possess : it is an inference, but nothing more. When their horses ran their four-mile heats they did not on all occasions go their best pace throughout, and it may be doubted whether the majority of the races which were run in 1754 were so well calculated to try the lasting powers of horses, as many of the races were which took place in 1854. In the preface to the first volume of the "Racing Calendar," there is a description of racing at Newmarket in the time of Charles II. ; it gives some confirmation to the opinion just expressed, and furnishes an entertaining description of that grand emporium of racing, and the rural amusements of the Merry Monarch. It is taken from the Duke of Tuscany's "Travels in England," which proceeds to state : "On the following day, May 9, 1669, the sky appeared lowering and cloudy, and threatened rain, which would prevent the horse-races that were to take place on that day ; but at sunrise the clouds partly dispersed, and the king went into the country, and his highness along with him, to renew the diversion of hare-hunting ; the great pleasure of which in this plain country is, that being entirely free from trees, it leaves to the huntsman the full enjoyment of seeing the animal without interruption, and observing their subtle flight, and frequent deceptions in turning and doubling round and

round, frequently by the same place and retracing their steps. At three o'clock, according to the English mode of reckoning, the king and the duke of York went from Newmarket to see the race-horses, and repaired to the place appropriated to this sport, going to a spot which is nearly in the middle of the course, and there his majesty stopped and amused himself with seeing my Lord Blandford and my Lord Germain play at bowls.

"The race-course is a tract of ground in the neighbourhood of Newmarket, which extending to the distance of four miles over a spacious and level meadow, covered with very short grass, is marked out by tall wooden posts, painted white. These pointed out the road that leads directly to the goal, to which they are continued the whole way, placed at regular distances from one another; the last is distinguished by a flag mounted upon it, to designate the termination of the course. The horses intended for this exercise, in order to render them more swift, are kept always girt that their bellies may not drop, and thereby interfere with the agility of their movements; and when the time of the races draws near they feed them with the greatest care, and very sparingly, giving them, for the most part, in order to keep them in full vigour, beverages composed of soaked bread and fresh eggs. Two horses only started on this occasion, one belonging to Bernard Howard of Norfolk, and the other to Sir — Elliot. They left Newmarket saddled in a very simple and light manner, after the English fashion, led by the hand, and at a slow pace, by the men who were to ride them, dressed in taffeta of different colours, that of Howard being white, and that of Elliot green. When they reached the place where they were to start, they mounted, and loosening the reins, let the horses go, keeping them in at the beginning, that they might not be too eager at first setting off, and their strength fail them in consequence at the more important part of the race; and the further they advanced in the course the more they urged them, forcing them to continue it at full speed. When they came to the station where the king and the duke of York, with some lords and gentlemen, of his majesty's court, were waiting on horseback till they should pass, the latter set off after them at their utmost speed, which was scarcely inferior to that of the race-horses; for the English horses, being accustomed to run, can keep up with the racers without difficulty; and they are frequently trained for this purpose in another race-ground, out of London, situated on a hill which swells from the plain,

with so gradual a rise that at a distance it cannot be distinguished from a plain; and there is always a numerous concourse of carriages there to see the races, upon which considerable bets are made. Meanwhile his highness, with his attendants and others of his court, stopping on horseback at a little distance from the goal, rode along the meadows, waiting the arrival of the horses and of his majesty, who came up close after them with a numerous train of gentlemen and ladies, who stood so thick on horseback, and galloped so freely, that they were no way inferior to those who had been for years accustomed to the manège. As the king passed his highness bowed, and immediately turned and followed his majesty to the goal, where trumpets and drums, which were in readiness for that purpose, sounded in applause of the conqueror, which was the horse of Sir — Elliot. From the race-course his majesty, being very much heated, adjourned to his house accompanied by his highness, and by the greater part of the gentlemen who had come to see the race."

Here we have a quaint, and no doubt a faithful description of the events as they transpired, with a brief insight into the mysteries of the training stable, but as there is no mention made of weights, in all probability they were not regarded. If the horses in a race of four miles canter over the first moiety of the ground, the result furnishes no further proof of endurance than a race of two miles and a half when the pace is made good from end to end. The owner of a first-rate horse, having him fit to run, is always desirous that the pace may be good throughout. Pace always serves a superior horse, let the distance be what it may. Without attempting to invest the practice of timing races with more importance than it deserves, it serves as a criterion whether or not the pace is good; we have no information on this subject from the early records of racing. In fact, it has only been adopted with accuracy, and as a general custom, at the most important races during the last six or eight years. Future generations will be greatly indebted to the talented gentlemen connected with the Press, for this and numerous other valuable details connected with racing, which they collect. The part which the spectators took in the proceedings, riding in with the race-horses in the time of Charles II., and being able to keep up with them without difficulty, as related by the Duke of Tuscany, does not inculcate the idea that the celebrities of that period were endowed with great speed. It is somewhat singular that this custom, which we may presume originated from royal example, was continued till a very recent date;

and occasioning inconvenience, induced the stewards of the Jockey Club in 1838, to direct that at Newmarket any member of a racing club riding in with the leading horses in a race shall be fined to the amount of twenty-five sovereigns, and all other persons to the amount of five sovereigns.

EARLY TRAINING.

Opinions are divided, whether it is conducive to imperfection in the race-horse to persevere with the prevailing fashion of running them at two years old, and many arguments may be adduced on both sides. Those who are opposed to the practice contend that the limbs of young animals are not sufficiently matured to sustain the ordeal of training, and that running them at so early an age shortens the period of their services on the turf; moreover, that it is calculated to establish constitutional defects, which they transmit to their progeny. The treatment adopted with young racing stock is such as to create an early maturity of the system, and there can be no doubt that in this important respect vast improvements have been made on the practice of our forefathers.

The supposition that early racing reduces the period of a horse's career on the turf is not established by fact; indeed, there is very conclusive evidence to the contrary, which will be seen on reference to the table of the comparative performances of ancient and modern horses. Many other examples may be added, but it would be tedious to enumerate them. The "Racing Calendar," and "Ruff's Guide," will support this assertion, convince those who are sceptical, and amuse those who delight in researches of that nature. In favour of the practice it may be observed that the lifetime of a horse is limited, and there is no reason to imagine that the period of his existence is affected by the age at which his services commence. If, therefore, a colt or filly be used for racing at two years old, and continues to run four or five years only, there is the more time to calculate upon the valuable services of either in the stud, than if they were not trained till they had attained the age of five or six years.

We are very prone to judge of events at a mere glance, and when figures present themselves often give them a definition without ascertaining their relative implications.

In the year 1825, 612 foals were produced, and in 1827, out of that number, only 144 two-year-olds came to the post. In 1860 the list supplies 773 foals, 309 of which presented

their cards to the various stewards of the races in 1852, nearly a moiety of the generation. The proportion was similar in 1854. This affords evidence of the increase of two-year-old stakes during the last five-and-twenty years, and, compared with the number of foals of the respective years, proves that the prevailing taste with breeders and owners of race-horses is to commence running them at that age. Although there are some noblemen and gentlemen who breed and keep race-horses purely for amusement, there are many persons who keep them with no other view than that of profit, and they compose by far the greater majority; they are essentially a shrewd, calculating class of men, and would not enter into transactions which they did not know to be advantageous to them. It is the breeders and owners of race-horses who encourage the races for young horses, not the public, for the money which is added to those stakes is not proportionate to that which is given for horses of more mature age. The amount which may be gained, irrespective of betting, by winning a two-year-old stake does not generally equal the sum which may be won by a handicap for horses more advanced in years; most men are anxious to know the capabilities of their young horses before they incur great expenses. Whatever patriotic impulses might have instigated breeders of race-horses in the early days of the turf, those motives certainly do not predominate with the present generation; but if the same good object be obtained, the stimulus to breed horses, and that in connection with individual profits, surely no argument can be held in opposition to the conjoined advantages. As it is evidently the interest of breeders to run their horses at an early age, any measures which would discourage the practice would be objectionable and futile; objectionable, because it would operate as a discouragement to breeding horses. If the argument could be established that it predisposes them to disorders, which they entail upon their progeny, that would be a good reason to advance, but such a position cannot be maintained. Take the leg as an example, and that limb is more subservient to the effects of work than any other. Some of the most celebrated horses have naturally a conformation of their fore-legs, which is objectionable in appearance, and many of their produce inherit that conformation; but it cannot be traced to the effect of early training, or severe work at any age. Partisan was by no means celebrated for the appearance of his fore-legs, which he doubtless inherited from his grandam Prunella, as most of her descendants possess a similar imperfection.

The same might have been traced to Venison, nevertheless his legs were unequivocally sound, otherwise he could not have undergone the very severe racing and constant travelling, which he did at three years old. There are likewise other failings, spavins and curbs, for example, which result from an imperfection in the form of the hocks: these are hereditary imperfections, in which case they will sometimes develop themselves without any exercise; they occasionally proceed from work, and make their appearance on hocks of the most perfect form: but curbs and spavins are by no means so prevalent as they were some five-and-twenty years ago, at which period it was quite the fashion to fire the socks of young horses, especially those which were intended for hunters, not because they evinced any weakness or apparent defects, but the poor animals were unnecessarily tortured and disfigured for no good purpose. Such absurdities are happily not practised in these days of enlightenment. Roaring is a disorder which appears to prevail to a considerable extent, and great attention has been devoted to the subject, yet no one has traced its origin to the effects of early training.

Early training does not appear to have produced ill effects on several of our best horses, by incapacitating them from accomplishing their most brilliant performances when they arrived at maturity, indeed most horses of celebrity, although trained at two, have continued on the turf till they were six years old. Beeswing won the Doncaster cup when she was seven years old. Both Touchstone and Lanercost won the cups at Ascot when they were six years old. Charles XII. won the Goodwood cups two years in succession, on the latter occasion when he was six years old. St. Francis, when five years old, won the Ascot cup, and Epirus, at the same age, the steward's cup at Goodwood.

CHAPTER V

CONFORMATION OF THE HORSE.

A VERY general account only can be given of this, for it varies essentially with the breed and destination of the animal. It is not within the scope of this little treatise, to enter minutely into the anatomical structure of this noble animal.

We will, however, take such a general view of it as will be interesting and instructive to the unscientific reader.

In a physical sense, the horse exhibits as high a degree of organization as does a human being. There is the same variety of complex structure, and the same adaptation of means to an end. Without some knowledge of these, an accurate judgment of the capabilities of the animal cannot be arrived at; nor can it be readily understood as to the kind of labour he can perform without injury, and the way in which he should be set to perform that labour. The general structure of the horse consists of a complicated set of levers, *i. e.* bones, all acting in combination with each other, by means of the ropes, *i. e.* muscles and tendons; and it is of the greatest possible use to know how these act on each other, so that they may never be made to act in any other direction than that intended by nature; any violation of this rule is, as a matter of course, attended with corresponding injury to the animal.

To illustrate this in the familiar instance of draught, this being one of the chief purposes for which the animal was intended. The way in which this is effected is, by the horse throwing his body forward, so as to cause his weight to act upon the load. This act would naturally cause him to fall, but from his advancing the legs in such a manner as to raise the body, and not only to support himself during the effort, but in such a way as will enable him constantly to renew the effort. It is evident that in this motion of the body, there must be a point in which both the weight of the body and the power of the animal's muscles and limbs are concentrated. This point is called the centre of gravity; and if the horse be not harnessed so as to cause this point to act in the most favourable manner on the load, of course, so much of the animal's power is lost as is wasted by pulling in a wrong direction; or what is still worse, in order to accomplish the object, he is compelled to exert himself injuriously in performing that which a little consideration on the part of his master would otherwise render easy to him. In the same way, if he be harnessed too far from his neck, the centre of gravity will be thrown into a contrary direction to that in which it could most efficiently act; and thus loss of power, and consequently injury from greater exertion, must be the result. In other words, if the direction of the power employed be different to that of the weight to be moved, the power is not used to the best advantage, and the strength of the animal is wasted to no purpose. It is only by an acquaintance with, and a study of the structure of the horse, that we

can put him to the best uses ; not necessarily a scientific knowledge of his structure, but so far, at least, as to comprehend the nature of the machine—for such the horse is—which we are employing.

There are some points, however, which are valuable in horses of every description. The head should not be disproportionally large, and should be well set on, *i. e.* the lower jaw-bones should be sufficiently far apart to enable the head to form that angle with the neck which gives to it free motion and a graceful carriage, and prevents its bearing too heavy on the hand. The eye should be large and a little prominent, and the eyelid fine and thin. The ear should be small and erect, and quick in motion. The lop-ear indicates dulness or stubbornness ; and when it is habitually laid too far back upon the neck, there is very frequently a disposition to mischief. The nostril in every breed should be somewhat expanded : it can hardly be too much so in the racer, the hunter, the roadster, and the coach-horse, for the horse breathes only through the nostril, and would be dangerously distressed when much speed is required of him, if the nostril could not dilate to admit and to return the air. The neck should be of moderate length. It should be muscular at the base, and gradually become fine as it approaches the head. The withers should be somewhat high in every horse, except perhaps that of heavy draught, and it does not harm him, for there is a larger surface for the attachment of the muscles of the back, and they act with greater mechanical advantage.

The chest is the first point to be looked at, both in point of capacity and form. Without capacity, the lungs of the animal cannot be properly adapted to the exertion which he has to undergo ;—the form is essential to be adapted for the purpose for which he is intended, whether for riding or draught. In the latter case, especially for heavy work, the broad chest is eligible, as acting more effectively on the collar, both from size and weight. If light draught be required, a moderate size, with depth of girth, is preferable, whilst for riding, the chest should be so formed as not to throw the weight too forward, the result of which would be undue and injurious pressure on the legs.

The back is the next point. If the horse be intended for riding, and speed be required, the back may be longer than for other purposes, as the paces of the horse will be easier. If for general purposes, a moderately short carcass is to be preferred ; it will be more compact, stronger, and yet sufficiently easy in pace. The back should be straight to the

loins, and these should be broad, muscular, and well joined together, no depression being observed between them, this being a sure indication of weakness. There should, however, be a depression behind the withers, and these should be high; for independent of the additional power gained, the more the fore quarters are raised, the longer will be the stride, and the safer will be the action. The muscles about the withers should also be well developed, as should also those of the chest, which should be well expanded.

The shoulder is another important point: the greater the angle between the shoulder-blade and the lower bone, the greater will be the ease in motion, and the more extended the stride; an upright shoulder being inimical to both. An oblique shoulder also gives greater safety, from the centre of gravity being kept well behind the points which support the animal. It is not difficult to form a correct judgment of the proper obliquity of the shoulder, for where it is too upright, it has of necessity more muscle, which from undue exercise becomes thick and clumsy. These points should be well attended to in a riding-horse, but for purposes of draught, in which great power is essential, and the pace of less importance, the upright shoulder is not so disadvantageous, as giving the horse additional weight to throw into the collar, as well as enabling him to press steadily on every part of it, his hind quarters giving the requisite impulse.

The arm, or the part extending from the elbow to the knee, must next be regarded; and the muscles proceeding from the shoulder-blade and the lower bone of the shoulder, to their junction with the elbow, should be well considered; for upon these depend the free extension of the arm, and the quickness and length of stride. Here we have an illustration of the lever: the elbow-joint is the centre of motion, the shoulder is the weight to be raised, and the leg is the lever, and the muscles form the power by which the limb is raised. Hence the elbow itself should be deep, as giving increased power of action.

The knee is next to be considered. It should be very broad in comparison with the arm and the shank, for as this is the fulcrum of the whole machine, the muscles and ligaments which envelope it should be of the greatest possible strength, and should be thoroughly developed. The broader the knee is, the greater will be the strength of the part. The leg itself is of great importance: it is formed of three bones, giving great strength, from the whole weight of the horse being thrown upon it. The sinews should be firm,

prominent, and clearly defined. The foot is described in another page.

Other points of the horse have been so repeatedly noticed, when speaking of distinct breeds, that it is unnecessary to recapitulate them here.

The horse is naturally an herbivorous animal. His thin and muscular lips, his firm and compressed mouth, and his sharp incisor teeth, are admirably adapted to seize and to crop the herbage. In his domesticated state, however, he is destined to live partially or chiefly on other aliment, and that of a much harder kind—the various species of corn; therefore, while man and the carnivorous animals can only champ and crush their food, a provision is given to the horse, in the structure of some of the bones of the head, by means of which he can comminute and grind down his food as perfectly as in the best-contrived mill.

The teeth of the horse require some lengthened consideration, not only from their admirable adaptation to this purpose, but as indicating, by the various changes which they undergo, and almost beyond the possibility of error, the age of the animal. He may, when young in years, be reduced nearly to the decrepitude of age by the barbarous usage of those who ought to have been his most zealous protectors; the cavity above the eye may be deepened, the under-lip may fall, the limbs may be bowed, and the feet may be battered and distorted—but it is not easy to alter the character of the teeth.

The colt is generally dropped with the first and second molar and grinding-teeth having forced their way through the gum. When he is about seven or eight days old, the two central front or incisor teeth, above and below, appear. At the expiration of five or six weeks, the two next incisors may be seen. At three months they will have overtaken the central ones, and both pairs will have nearly attained their natural level. A third grinder will then have appeared; and a little before or after the eighth month the third nipper, above and below and on each side, will have protruded. The colt will now have his full complement of front or cutting teeth.

These teeth are beautifully adapted to their purpose. They have in front an elevated cutting edge of considerable sharpness. It is formed of enamel, a polished substance which covers the tooth, and is almost too hard to be acted upon by a file. This elevated edge is bent somewhat inwards and over the tooth, so that there is a depression

behind it which gradually becomes stained by the food, and constitutes what is called "the mark" in the mouth of the colt or horse.

This elevated edge of enamel, hard as it is, is gradually worn down in the act of nipping and cutting the food; and as it wears away, the hollow behind becomes diminished, and is at length totally obliterated. By the degree in which this mark is effaced, the horseman, not only with regard to the first, but the permanent teeth, judges of the age of the animal. This obliteration begins to be manifest at a very early age. At six months it is sufficiently evident in the four central nippers. At a year and a half the mark will be very faint in the central nippers, diminished in the other two, and the surface of all of them will be flattened.

At twelve months a fourth grinder protrudes, and a fifth at the expiration of two years.

These are all temporary teeth. They were only designed to last during an early period of the life of the animal; and when his jaws become considerably expanded, they give way to another set, larger, firmer, and that will probably last during life. The permanent teeth had been long growing in the socket beneath the temporary ones, and had been pressing upon their roots, and that pressure had caused an absorption of these roots, until at length they lost all hold and were displaced.

When the animal is about three years old, the central pair of nippers, above and below, are thus removed, and two fresh teeth, easily distinguishable from the first by their increased size, make their appearance, so that a three-year-old colt is easily recognized by these two new and enlarged central nippers.

A three-year-old colt has his form and energies much more developed than a two-year-old one, and is considerably more valuable; therefore some dishonest breeders endeavour to pass him upon the unwary as being a year older than he really is, and they accomplish this, in an ingenious but cruel manner, by punching or drawing out these teeth. This cannot, however, be effected until a portion of the second year is past, when the permanent teeth below are beginning to press upon the roots of their predecessors, and then the breeder extracts the central milk-teeth. Those below, having no longer anything to resist their progress, grow far more rapidly than they otherwise would do, and the scoundrel gains four or five months in the apparent age of his colt.

Can this trickery be detected? Not always, except by on

who is well accustomed to horses. The comparatively slow wasting of the other nippers, the difference of the development of these nippers in the upper and under jaw,—for the breeder usually confines his rogues to the lower jaw, the upper one being comparatively seldom examined—these circumstances, together with a deficiency of general development in the colt, will sufficiently enable the purchaser to detect the attempted cheat.

The honest mouth of a three-year-old horse should be thus formed:—the central teeth are palpably larger than the others, and have the mark on their upper surface evident and well defined. They will, however, be lower than the other teeth. The mark in the next pair of nippers will be nearly worn away, and that in the corner nippers will have begun to wear.

At three years and a-half the second nippers will be pushed from their sockets, and their place gradually supplied by a new pair; and at four and a-half the corner nippers will be undergoing the same process. Thus at four years old the central nippers will be fully grown: the next pair will be up, but will not have attained their full height; and the corner nippers will be small, with their mark nearly effaced. At five years old the mark will begin to be effaced from the central teeth; the next pair will be fully grown, and the blackness of the mark a little taken off; and the corner pair will be protruding or partly grown.

At this period, or between the fourth and fifth year, another change will take place in the mouth of the horse; the tushes will have begun to appear. There will be two of them in each jaw, between the nippers and the grinders, considerably nearer to the former than the latter, and particularly so in the lower jaw. The use of these tushes in the domesticated state of the horse is not evident; but they were probably designed as weapons of offence in the wild state of the animals. Attempts are too frequently made to hasten the appearance of the second and the corner teeth, in the same manner as described with regard to the first, and the gum is often deeply lanced in order to hasten the appearance of the tush.

At six years old the mark on the central nippers will be diminished, if not obliterated. A depression and a mark of rather brown hue may remain, but the deep blacked hole in the centre will no longer be found. The other incisors will also be somewhat worn, and the tush fully developed.

At seven the mark on the next pair of incisors will have

nearly disappeared, and the tush will be rounder at the point and the edges.

At eight the mark will be gone from all the incisor teeth, and the tush will be evidently rounder and blunter.

At this period another piece of trickery is occasionally practised. The breeder had, until the animal was five years old, been endeavouring to give him an older appearance than his years entitled him to, because, in proportion as he approached the period when his powers were most perfectly developed, his value increased; but now he endeavours to conceal the ravages of age. The horse is cast, and with a sharp-pointed steel instrument a little hole is dug on the surface of the corner incisor, to which a red-hot iron is afterwards applied. An indelible black mark is thus left on the tooth. Sometimes the roguery is carried further; the next tooth is slightly touched with the engraver and the cautery; but here the dishonest dealer generally overreaches himself, for the form and general appearance of a six-year old horse can rarely be given to one which has passed his eighth year. The eighth year having passed, it is difficult to decide on the exact age of the horse. The incisors of the upper jaw are then the best guides. At nine years the mark will be worn away from the central teeth; at eleven, from the next pair; and at twelve from the corner ones. The tush likewise becomes shorter and blunter.

There are many circumstances which render a decision as to the age of the horse very difficult after the marks are effaced from the lower incisors, and even before that period. Horses always kept in the stable have the mark much sooner worn out than those that are at grass; and it is impossible to form any certain calculation as to crib-biters.

Of the age to which the horse would naturally arrive it is also impossible to say anything satisfactory. Many have exceeded thirty, and some even forty years; but, from ill usage and over-exertion, many come to their end before they have seen nine or ten years.

Another part of the horse must not be passed over without especial notice, namely his foot. This is a truly admirable piece of mechanism, and deserves to be well understood. It simply consists of a horny case or covering for the protection of the sensitive parts within, and extends from the termination of the hair to the ground. It is deepest in front, where it is called *the toe*, lower at the sides, or *quarters*, and of least extent behind at *the heel*. It is placed in a sloping or slanting position, forming an angle, which, in the healthy foot, is

about 45 degrees. Any deviation from this is considered a defect. If it is more oblique than this, it indicates a flatness of the sole, or even a protrusion of it downwards, constituting a pumiced or convex foot—a very great evil, as it exposes the sole to bruises or undue pressure. If the crust or box is too upright, it indicates a tendency to contraction, thrush, and inflammation, an upright pastern, and jolting unpleasant pace. These are serious deviations from a natural state of the foot, and should be immediately recognized by the observer. The crust is thickest in front, and becomes gradually thinner towards the quarters and heels. This thinness is greatest on the inner quarter, or inner portion of the crust, and more weight is thrown upon it than upon the outer quarter. This may seem at first view to be rather singular, but it is a wise provision of Nature, in order that the elasticity of that part may be brought more into play, and dangerous concussion lessened or avoided. The nails are often driven too close on the inner quarter, the consequence of which are corns, contraction, and sand-crack.

The foot often varies greatly in magnitude in proportion to the general bulk of the horse. This is a considerable evil. A large foot not unfrequently becomes objectionable from its striking the opposite leg; on the other hand, the large foot will not sink so readily into soft ground, and consequently not demand so great an effort of strength to extricate it. In general broad or flat-footed horses possess the greatest strength; small and narrow-footed ones have superior speed. Both, within certain limits, possess their respective advantages and disadvantages. Large bulky hoofs are weaker than others, in consequence of being composed of a thin, soft, porous horn. Small feet generally possess a close-woven horn, but are deficient in circularity of figure, with great depth of substance, and are of a more durable nature.

On account of the superior weight which it bears, the inner heel wears away more quickly than the outer one. It will often be scarcely necessary to remove any horn from the inner heel, for that is already effected by the wear of the foot. The smith frequently forgets this, and pares away all round with his butteris or his knife, and thus, leaving the inner quarter lower than the outer, throws an uneven bearing upon it, and produces corns, sand-cracks, splints, and various other evils. The depth of the horn in the front of the toe, measuring from the termination of the skin, is on an average about three inches or three inches and a half, and its thickness varies from three-eighths of an inch to half an inch;

at near the top, and at the inside, it is found to be scooped or hollowed out, and contains or covers a thickened prolongation, falsely called the coronary ligament, for it has no ligamentous substance belonging to it. It is a collection of blood-vessels bound together by a fibrous texture, and its office is to supply any loss of substance in the hoof that may be occasioned by accident or disease, and also to secrete the substance of the wall or crust of the feet.

The crust or hoof is composed of fibres running perpendicular from the coronet to the ground in front, and at the quarters, taking an oblique direction forwards. This construction enables the heels to expand when they come in contact with the ground, and this expansion permits the gradual descent of the bones of the feet, and obviates much concussion. It is in order that this expansion may readily take place, that the crust, as has been already stated, is thinnest at the quarters and towards the heels.

On the inside of the crust are numerous narrow, thin plates or processes, called the laminae, arranged in the nicest order, and with almost mathematical precision. They extend parallel to each other in a perpendicular direction from immediately beneath the coronary ligament to the junction of the wall with the sole, and are so thickly set that every part of the crust is occupied by them. They are likewise continued over the surface of the bars, of which mention will presently be made. They are about 500 in number, broadest at their base, and terminating in the most delicate expansion of horn. They correspond with similar leaves projecting from the coffin-bone, or internal bone of the hoof, and thus present a most extraordinary superficies for the attachment of the coffin-bone. The laminae from the coffin-bone and those from the hoof form a complete union, which, for strength and elasticity combined, may vie with any piece of animal mechanism that is known. It has been calculated that the united superficies, in a foot of tolerable size, will yield a surface of attachment equal to 212 square inches, or nearly one square foot and a half. This is a contrivance to prevent concussion which may well excite our admiration.

The bars are processes of the wall of the foot, inflected obliquely across the bottom of the foot, along and outside of the frog. The slightest consideration will show that their office is both to admit of and to limit to its proper extent the expansion of the foot. When the weight of the animal is thrown on the laminae, these arches will shorten and widen in order to admit of the expansion of the quarters, and, when

that expansive power ceases to act, the bar will return to its usual curve, and the foot will regain its usual form. It is strange that, even at the present day, the farriers should maintain their combination to get rid of this beautiful and useful contrivance of nature. Although every foot from which the bars are removed becomes more or less contracted at the quarters, old prejudices prevent them from tracing the connection of cause and effect. The owner of the horse should lay it down as a principle, from which his farrier should never be permitted to deviate, that the bars of the foot should never be cut away.

The sole is the arched plate at the bottom of the hoof, and it is one of the most important parts of the foot. Thousands of horses are ruined by the mass of horn which is suffered to accumulate on it, and, occasionally, the sole is materially injured and wounded by it. The natural thickness of the sole is about one-sixth of an inch, but that which forms a union with the bars is nearly double the thickness of the other parts. In its natural state it is to a certain degree hollow, and thus it has the capacity of descending with the weight of the horse. A flat sole cannot descend lower. This also is a circumstance that the smith should be compelled to attend to.

The frog is the prominent triangular body occupying the chasm between the bars. It extends forwards towards the toe about two-thirds of the distance between the toe and the heel. It is of a cuneiform figure, not a little resembling a plough-share. It consists of two rounded or projecting surfaces, with a fissure or cleft between them, but uniting about half-way down the foot, and forming a wedge with the sharp point forwards, in order to give security to the tread of the horse. It assists also in a material degree in the expansion of the foot. Thus the diminution of the substance of the frog, and its elevation above ground, must be injurious. The rough and detached parts may be removed, but the substance of the frog should always be left *just above or within the level of the shoe.*

When well treated, the horse lives to a great age, though, as treated in general, his best years are from five to fifteen ;—instances, however, being numerous in which he is serviceable to twenty years of age, and even longer. An instance is on record in which he reached the extraordinary age of seventy.

The senses of the horse are acute and delicate, and his intellectual character is marked by a quick perception, an

excellent memory, and benevolence of disposition. As in man, some horses are highly courageous, others timid—some lively, playful, and generous, whilst others are as stupid, obstinate, and vicious. He is rarely found to exert his vast strength and activity to his master's prejudice; on the contrary, he will endure fatigue, even to death, for his benefit. One of his most eminent characteristics is that his efforts are not made so much from fear of his master, as from a certain consciousness of the necessity for doing his duty, for the sake of the services which he receives at the hand of man.

The natural affection of the horse is not displayed towards man only, but he extends his attachment to other animals who are associated with him, and not to his own species alone, but to animals of any other species. The fondness of the horse for dogs is well known, and when a cat takes to the stable, she is presently on the best of terms with the inmates. Horses are much attached to a goat, and this animal is hence frequently kept in a stable, more even on the continent than in England, the result being much natural regard between the goat and the horse.

The horse, too, has his tastes as well as his rider. The fondness of horses for music has been an observation in all ages, and the bands of a cavalry regiment have no little to do with the proud military bearing of the regimental horses. All soldiers know the delight with which a horse listens to a military band.

It was formerly customary, in order to improve the appearance of the horse, to dock and nick his tail. The custom no doubt originated with the same blockheads who slit the tongue of a magpie to make him talk; a more barbarous or a more unsightly practice was never adopted. The pain which the animal suffers in having his vertebral column cut through, and with it the medullary substance and the spinal cord, is the most intense which one brute can inflict on another, even though the inflictor of the pain be the brutal owner of a horse. The only defence which was ever put forth in alleviation of so barbarous a cruelty, is, that the horse shall carry his tail like an Arabian, as though the sightless and indelicate stump, sticking out of the hind-quarters of a docked horse, was anything but a ridiculous caricature of the cordal appendage of the Asiatic horse. We should like to see the experiment tried upon the brutal mutilator of the noble animal, of summoning him before a magistrate, under the act for cruelty to animals. The magistrate would have no alternative but to commit, and a

few such convictions might teach such men to refrain from cruelty, though nothing would be likely to teach them the practice of humanity.

But the cruelty of docking a horse or nicking him does not end with the infliction. Any man sunk less low in the human scale than a horsedealer, will perceive that the tail is given to the horse by the same Providence which made him, for the twofold purpose of protecting a tender part against cold in winter, and to lash off the flies and other insects which torment him in summer. Both these ends, necessary to the comfort and even health of the horse, are frustrated by a half-witted *ignoramus*, who believes that he can mend the works of the horse's Maker. To make the tail of the animal more useful than it was intended by Providence to be, he renders what his barbarity has left of it altogether without motion of any kind.

A very little observation on the habits of the horse would have shown the folly as well as cruelty of such a practice. There are few portions of a horse's body which he cannot reach with his teeth or his tail, the latter being in this respect a hand to him. But if a horse itch in any part which he cannot reach, he will go to another horse, and bite him on the part which he himself wants bitten. His friend will take the hint and perform the kind office for him. This should hence show the necessity of not depriving the animal of those portions of his body by which he can free himself from annoyance.

Before quitting this portion of our subject we will glance at a few of what are termed the "*superstitious fables*" of the ancients relative to the horse;—fables quite as true as is the whole of ancient mythology—as many of the sober histories of our days.

We are told, that "Neptune having struck a rock with his trident, forthwith sprung a horse, and this form he himself assumed to enjoy the society of Ceres, who was travelling over the world in quest of her daughter." In memory of this the ancients sacrificed to Neptune a horse and a bull.

Now had a modern historian been writing this narrative, it must have stood thus:—"Previous to the occupation of Greece by Egyptian colonists, agriculture had made great strides in more civilized countries, and was rapidly spreading over the eastern world. It so chanced that a cargo of Egyptian horses struck upon the rocks of the Greek coast, and both horses and crew were saved. Both remained in the country, and the shipwrecked seamen taught the uncivilized

natives the use of the horse in agriculture." In other words, Neptune had brought the horses, and was enjoying the society of Ceres. The so-called fabulous account is so beautifully poetical that we prefer it before modern prose.

Again, it is said by the writers of ancient fable, that "Pluto, who was both rich and ugly, had been refused by all the goddesses, and that being determined to live single no longer, he saw Proserpine, the daughter of Ceres, gathering flowers in Sicily, and carried her off in a chariot drawn by four horses."

There is nothing fabulous in this, for it occurs every week in England in some shape or other. Had the correspondent in the *Morning Post* been describing the event, he would have done so after this fashion:—"Great sensation has been created in the little town of Oatlands by the elopement of the young and pretty Miss Lightfoot, the daughter of a respectable farmer here, with old Mr. Moneybags, the rich usurer. Mr. Moneybags had, as was well known, been refused by all the heiresses about on account of his want of personal attractions, which, however, in Miss Lightfoot's estimation, appear to have been more than compensated for by the splendid equipage drawn by four horses, which he had presented to her." Pluto eloping with Proserpine was nothing more than this, and the subsequent finding of Proserpine by Ceres would be just the sequel of Miss Lightfoot's marriage with old Mr. Moneybags.

Again, the ancients fabled the sun to be drawn by five horses, Æthon, Statio, Eöus, Pyrois, and Phlegon. We will take the latter name only, signifying *burning*. The ancients began their day at noon, so that the burning horse drove the last stage of the twenty-four hours, which is appropriate enough. If we look back at the names of the other horses we shall find them all indicative of their respective stages, for they did not all draw together, as is commonly supposed, and then this fable simply resolves itself into five natural divisions of the twenty-four hours, viz.,—evening, night, dawn, morning, and mid-day.

It would not be difficult to go through the whole horse mythology of the ancients in a similar manner.

CHAPTER VI.

ON BREEDING STOCK.

BREEDERS of all kinds of animals are unanimous in their opinions that it is necessary to have distinct varieties, usually distinguished as thoroughbred, for the propagation of the species, whether it be determined to carry on the unblemished pedigree, or to cross with other breeds. The high value set upon the short-horned cattle is estimated principally by the purity of the blood; and the true Southdown or Leicester sheep by a similar criterion.

It is a general observation with those who have devoted attention to the subject, that horses and mares require much time after they have been trained, before they distinguish themselves as the progenitors of first-rate stock. This affords another argument in favour of early training. Both with mares and stallions their best foals have often not come forth till they were advanced in years. According to the presumed age of the Godolphin Arabian, he was thirteen years old when he became the sire of Regulus. Paynator and Whalebone were each of them twenty years old when their sons, Doctor Syntax and Sir Hercules, were foaled. Potoooooo, Sultan, Langar, and Venison, were each of them sixteen years old when they became the sires respectively of Waxy, Bay Middleton, Epirus, and Kingston. Melbourne was fifteen when he begat West Australian; Haphazard fourteen when he was the sire of Filho da Puta. Orville was the same age when he was the sire of Ebor, and twenty when he begot the still more celebrated Emilius; and an infinity of similar examples may be added. This property applies more generally to stallions than to mares: for it is sometimes apparent, that their first foals are vastly superior to their subsequent produce. This was the case in olden times with the dams of Mark Antony, Conductor, Pyrrhus, and Pantaloon; and more recently with Sultan, Touchstone, Sir Hercules, and Filho da Puta. Whether the subsequent change of partners has any prejudicial effect on the future progeny is a subject worthy the most scrupulous attention of breeders. The case of Penelope, which has already been mentioned, is in favour of the assumption; for the superiority of her first seven foals, by Waxy, over the others by different horses, is a fact

which cannot be disputed. It is curious to remark, that when a thoroughbred mare has once had foals to common horses, no subsequent foals which she may have had by thoroughbred horses have ever evinced any pretensions to racing qualities. There may be an exception; but I believe I am correct in stating that there is not. It is laid down as a principle, "That when a pure animal, of any breed, has once been pregnant to one of a different breed, she is herself a cross ever after; the purity of her blood having been lost in consequence of this connection." This will no doubt be received by many persons as an abstruse hypothesis, but there are unequivocal incidents in favour of it; and that valuable monitor, past experience, must be received as a more convincing argument than the opinion of individuals, on subjects which are hidden from our understanding by the impenetrable veil which, on many occasions, enshrouds the secret mysteries of nature. There are events on record which prove this faculty, although they do not enlighten us as to the physical influences which control it. Sir Gore Ouseley, when in India, purchased an Arabian mare, which during several seasons would not breed, and, in consequence, an intercourse with a zebra was resorted to; she produced an animal striped like its male parent. The first object being accomplished, that of causing her to breed, a thoroughbred horse was selected, but the produce was striped. The following year another horse was chosen, yet the stripes, although less distinct, appeared on the foal. Mr. Blaine relates, that a chestnut mare also gave birth to a foal by a quagga, and that the mare was afterwards bred from by an Arabian horse, but that the progeny exhibited a very striking resemblance to the quagga. The paintings of the animals bred by Sir Gore Ouseley, as also the skins, are to be seen at the museum of the College of Surgeons, in Lincoln's-inn-fields. It was also observed by a gentleman connected with the establishment at Hampton-Court, in the reign of William IV., that several of the foals got by Acteon had marks similar to the Colonel, namely, a white hind fetlock, and a white stripe down the face. Acteon had no white marks about him. The mares had bred foals the previous year by the Colonel. Scientific men have endeavoured to explain the basis of these phenomena on anatomical principles; whether they have succeeded in doing so very comprehensively is another question, but it would be inconsistent to attempt the discussion of arguments of that nature in these pages; it is sufficient that we have examples.

The science of breeding horses is replete with interest to those who are immediately concerned in that pursuit, or racing in its various phases; and to those who are not, considering its importance in a commercial and national point of view, it cannot fail to excite attention. The unanimity which has presided over the progress made in racing and breeding for that purpose is indubitable; still there are persons disposed to censure the exciting customs of the turf, as conducive to the defeat of that object for which they ought to be framed with the most careful application. In addition to the subjects already noticed, it is frequently argued, that the prevailing fashion of handicap races, and light weights in general, are calculated to encourage the breeding of a degenerate class of horses. Here it must be observed, that it is not in the power of human ingenuity to introduce systems which are quite free from objection. In whatever may be advanced in the way of improvement, something occurs to prevent the attainment of perfection. With respect to weights, it cannot be denied that the custom of carrying high weights prevailed with our ancestors very materially over the usages of modern times; but without investigating the fact, many persons entertain an opinion that it was an universal practice; which, however, is a mistake. Many of their matches were made at weights varying from seven to nine stone; and as early as the year 1719, there is an account of a match made between Lord Hillsborough's Fiddler, twelve stone, and the Duke of Wharton's galloway, four stone, for which the latter paid forfeit. What pretensions Lord Hillsborough's horse could possibly have had to justify his giving such an extraordinary allowance of weight to the meanest galloway in the creation, possessing any pretensions to racing, it is impossible to conceive, when it is mentioned, that the following year he was beaten in a match of four miles, by Mr. Fieldsley's galloway, carrying eight stone eleven pounds six ounces, his lordship's horse carrying only eight stone. They appear to have been remarkably punctilious with respect to weights at that period, as there is an account of a match, in which the Duke of Wharton's Chance, eight stone ten pounds three ounces, beat Lord Hillsborough's mare, seven stone three pounds, four miles, at Newmarket. This occurred in the year 1719. There are several other instances of similar niceties. Another match was won in 1720, by Mr. Panton's Dun, carrying a feather, and beating Mr. Frampton's Potato, six stone twelve pounds, four miles. In the following year, Mr. Panton's Spark, four stone eleven pounds, beat, at three four-mile

heats, Lord Drogheda's Pickle Herring, eight stone. Thus we have precedents for light weights from a very early date.

It is not because these facts are mentioned, that the prevailing custom of running at very light weights can be defended, for the racing community has fallen into a very great extreme, more prejudicial on other accounts, than with reference to its influence on any presumed degeneration of the race-horse. Very light weights involve the necessity of employing mere children to ride, against which there are many objections. The art of race-riding was for a length of time regarded as an accomplishment not very easy of attainment, but when we see so many juveniles employed, weighing not more than four stone seven pounds, and dignified with the title of jockeys, the distinction of talent is dispelled; and it is miraculous that serious accidents are not of frequent occurrence. We were wont to admire the judgment displayed by Buckle, the electrifying rush of Chifney, the grace, elegance, and experience of Robinson, the splendid horsemanship of Edwards, and the skilful handling of Scott. We appreciate the talent of Flatman, Butler, Templeman, Day, Marlow, and many others of their class, and it occasions a sensation of regret when we see their superior efforts and the valuable horses which they ride, defeated, not by merit, but the levelling principle in racing; a great disparity of weight in the person of a powerless, inexperienced boy, on a weedy, worthless animal. These events place money to the credit of persons who are owners of bad horses, without enhancing the value of their steeds for the purposes of the stud; for it must be observed, that a bad horse carrying a very light weight, and running a handicap, gains but an equivocal reputation. He must do something more to establish his fame, before he will be permitted to become the progenitor of his species, unless it be among the half-bred classes.

That higher scales of weights than those which are generally adopted would be conducive to the interest of all parties there cannot exist a doubt, and many of the best and most enlightened patrons of the turf concur with the opinion; but it is a subject over which it is difficult to exercise any control. The committees of management at provincial meetings are obviously anxious to present a programme which shall be attractive, and there are many owners of horses who are readily captivated with light weights irrespective of the proportions. This fashion is more the effect of caprice than of any well-founded principle. With exceptions, which are not numerous till we get among the *oi polloi* of thorough-

bred stock,—it must not be dignified with the term racing-stock,—the horse that can win with eight stone on his back will win with ten, providing all the other horses carry proportionate weights. Of course there are exceptions in the very weedy wretches which scarcely ever win, and it would be conferring a favour on their owners if some means could be devised to prevent such animals from being trained. Very powerful slow horses may also be found who rejoice under heavy weights, so long as they are not required to contend against competitors of the best classes. This is the point upon which many persons who are not accustomed to the management of trials, and practically initiated in the mysteries of racing, draw mistaken inferences. It is said, and very truly, the latter are the kind of horses to encourage for the purpose of breeding hunters, and other horses for the ordinary affairs of the country. But how the production of that specific kind of animal is to be encouraged exclusively presents considerable difficulty. The only available means appears to be that of promoting the breeding of race-horses upon the most liberal, expansive, and unrestrictive conditions, as the most likely means of having horses calculated for different occupations. The infatuation, for so it may be in reality designated, which extends to many owners of race-horses is such, that if there be one handicap commencing at seven stone, and descending to four stone seven pounds, and another commencing at eight-stone, with precisely equivalent diminutions, the former race will insure the greatest share of patronage, although the services of incompetent boys must be called in requisition to ride the light weights. At some of the race meetings a proper view is taken on this subject, which may probably lead to advantageous results. The ancient city of Bath affords a good example, and the unequivocal success of the late meetings is highly encouraging. The very light weights are dispensed with in the handicaps, and the City Cup, a weight for age race, distance two miles and a half, commences with ten stone four pounds on six years old and aged horses, ranging down to seven stone on three years old. The subject of handicaps, as relates to the influence which they exercise over the breed of horses, must not be passed over without mentioning a custom somewhat similar which prevailed in the early days of racing, commonly denominated weight for inches. This was done to accommodate the numerous undersized animals which abounded at that period. The patronage afforded by these prizes was quite as much calculated to encourage an insignificant breed as the handicap of the present age. To

obviate one of the most objectionable features in the handicaps, an improvement would be effected if the maximum and minimum weights were confined between nine stone three pounds and five stone seven pounds. It would, to a certain extent, operate to the exclusion of worthless animals. A further classification of horses might be adopted, by confining the weights to be carried by six, five, and four years old horses, between nine stone seven pounds and eight stone, and no three years old to be handicapped for that race under six stone. It is certainly an objectionable principle that a person having a superior horse shall experience any difficulty in selecting engagements for that horse, for which he may compete with others nearly on an equality with himself without risking defeat by animals unworthy the name of race-horses, through the levelling influence of weight.

The intention of a handicap is to afford every horse an equal chance of winning; that the worst horse shall be placed in an equivalent position with the best, and logically this appears to offer encouragement to breed bad horses; but that condition must not be taken in a literal sense; there are so many inducements to breed good horses that every breeder exerts himself to do so, and the welcome handicaps come in at last to the relief of those who are not fortunate enough to hold court cards.

Many proposals have been made for the introduction of measures which the suggesters, with the very best intentions and most patriotic motives, have imagined would stimulate persons to breed horses of superior character, suitable for general employments, and especially for military service. Now that we are unfortunately engaged in war, it is a most important consideration; but the plans proposed would not be effective. One is an invitation to Government to offer large prizes for horses by Arabian sires to carry high weights, run a long distance, and not to commence running till they are five years old. Without going into details, the time would be a great impediment. Six years must elapse before a horse bred after the prescribed fashion could be brought to the post, three years probation on the turf, and five years more before the produce would be available. We cannot, in these days of advancement and rapid improvements, wait so long a period. If the test of constitution, and all the attributes which contribute to perfection, were decided by running four-mile races, we have steeple-chases innumerable, for the purpose of trying all the powers of endurance, soundness, and constitutional stamina. Without invoking any assistance from Government,

the public have subscribed ample funds to induce persons to breed horses capable of running long distances under the most trying and distressing circumstances. Steeple-chasing has been in vogue more than twenty years, therefore if any stimulus of the kind could be the means of improving the breed of horses it has for a long period been in effect. With racing and steeple-chasing combined we have ample means of deciding the qualifications of horses at all distances, from half a mile to three miles on the race-course, and four miles over a country, with the additional tax upon the powers of the horse occasioned by leaping fences. Callous indeed must be the human heart that would desire to impose on the noble horse tasks of greater severity.

The diminutive stature of the horses of olden times—the immediate descendants of the Arabians—affords a strong argument that our present breed of horses is superior to them for racing purposes. Cartouch, Young Cartouch, Silverleg, Champion, and Teazer, the two last named contemporaries and antagonists of Regulus, were only between thirteen and fourteen hands high; Marske, the sire of Eclipse, did not exceed fifteen hands: without attempting to establish a theory that the goodness of a race-horse is determined by his height, yet, unless he comes up to a certain standard with concomitant proportions, he is unable to measure distances with the celebrities of his day. For all purposes, except that of draught, fifteen hands two inches is the most desirable, an inch over or under included. There is a standard of excellence which regulates the stature of all animals; that exceeded or not attained, the acme of perfection is wanting. It is unnecessary to remind those who are intimately acquainted with racing that no undersized horse, that is, one not exceeding fourteen hands, however well bred he may be, has the slightest chance in a race with a horse of fair pretensions, a hand and a half higher, with proportionate power and muscular symmetry. We have well-bred galloways at the present day, but their performances are exclusively devoted to races held at country places, commonly styled "Diversions," where they compete only with animals of their own size. The reasonable conclusion is that they are equal to the horses of the olden times; but the average race-horses of the present day are far superior, in consequence of the improvements made in their size and power. This has been accomplished by selecting those to breed from which have established a fame on the turf, or near relatives to them; and those which, being well bred,

from their power and symmetry present reasonable expectations of producing foals of value. To this may be added good and suitable nourishment, and a climate highly congenial to the constitution of the equine tribe. The partisans of the ancient worthies contend, that although low in stature, they were superior in those proportions which gave them power—an inference which cannot be established. Length is an essential auxiliary to racing properties, and an animal only fourteen hands high, with the length and substance of one fifteen hands two inches, would be out of all proportion.

On the subject of galloways the history of an extraordinary mare of that class will afford an interesting and appropriate example. It is that of a bay mare, called Bistarda; she was by Bustard, dam by Sir Ulick McKilligt, grandam by Young Benningborough: she was foaled in 1826. The dam of Bistarda was a short-legged mare, not exceeding fourteen hands two inches in height, an excellent hunter for the weight she had to carry, between nine and ten stone, but her racing qualifications were never put to the test. Bistarda's first race was for a sweepstakes, at Burton, when three years old, which she won, beating a horse of no pretensions, though greatly her superior in size: her second race was at Rugeley, when she carried nine stone ten pounds, and was beaten by a horse called Tom Moody, five years old, carrying eleven stone twelve pounds. Being undersized, not exceeding fourteen hands, she was then sold to a man who devoted his attention to running for galloway stakes, and in his possession she won more races during the succeeding five years than even Catherina; but as she did not run at meetings within the surveillance of the "Racing Calendar," the records of her performances are lost. She was never beaten when running against animals of her own standard, but occasionally her owner was tempted to enter her against horses of full size, when their superior powers occasioned her defeat. Had she been in existence a century earlier, there is no doubt she would have been the phenomenon of that day, as she was amongst her own class at a subsequent period. Our present breed of race-horses has been stigmatized by the assertion that they are bred in and in, and that they have degenerated in consequence, compared with those of our ancestors. A comparison has been made with reference to breeders of cattle and sheep, "that they well understand the necessity of carefully avoiding incestuous breeding." To those who make researches into the dry pages of the "Stud Book" and "Herd Book" it is unnecessary to offer

a remark, but as there are so many who do not, and who take as facts the assertions of others, it becomes necessary to rebut the statement, and introduce a few examples to convince those who may be sceptical. The subject of incestuous breeding in cattle will be dismissed with very few words. At the late Earl Ducies' sale, in 1853, a white heifer, only five months old, produced the enormous price of 400 guineas; she was a daughter of the bull called the fourth Duke of York, her dam Duchess 59, by the second Duke of York. The fourth Duke of York was a son of the second Duke of York, consequently the sire and dam of the heifer were half-brother and sister. The "Herd Book" affords many other examples of incestuous breeding among short-horns, and many of those which realise extravagant prices are bred after this fashion.

The most talented and successful breeders of horses during the present century, thoroughly convinced of the impropriety of breeding from families nearly related, have scrupulously avoided it. Examples have been given in the first portion of these remarks, showing to what an extent it was practised when breeding for the turf was in its infancy; it is therefore unnecessary to repeat them, and the pedigrees of the horses of the present generation are so well known that it is useless to give them in detail. There is no proximity of relationship in the genealogy of the Flying Dutchman, Touchstone, Melbourne, Epirus, Alarm, Bay Middleton, Hero, Orlando, Irish Birdcatcher, Cossack, Harkaway, Tearaway, Lothario, or others of celebrity. There may be a few instances of other horses in which some consanguinity can be traced, but they are not numerous, neither are the degrees of relationship nearly connected.

There is a subject which may now be opportunely introduced, which breeders and others do not generally take into consideration—the wonderful working of arithmetical progression, which shows that the amount of any particular blood diminishes in such a ratio, that actual proof only can make it apparent. The pedigrees of many horses of celebrity may be traced back to Childers, the Darley Arabian, and other worthies of ancient date; but where there is only one direct line of descent, the following calculation will show how little of the blood flows in the veins of the present generation. It may be considered that these horses flourished about a century ago, and taking ten years as a generation, a lineal descendant of a horse of that period only possesses $\frac{1}{1024}$ portion of the blood.

The 1st Cross had	$\frac{1}{2}$	The 6th Cross had	$\frac{1}{4}$
2nd "	$\frac{1}{4}$	7th "	$\frac{1}{8}$
3rd "	$\frac{1}{8}$	8th "	$\frac{1}{16}$
4th "	$\frac{1}{16}$	9th "	$\frac{1}{32}$
5th "	$\frac{1}{32}$	10th "	$\frac{1}{64}$

Further crosses diminish it to a still more striking extent.

On a previous occasion, when describing the performances of Liston and Independence, it was mentioned that certain horses had invariably failed as the progenitors of good stock on the turf, and that their male progeny were equally unsuccessful in the stud, yet they have transmitted great excellences through the female branches when employed as brood-mares. It is now desirable to revive these observations in order to trace them more perspicuously. The horses to which this extraordinary faculty apply are Sir Oliver and Master Henry: the former was the sire of only one horse of fair repute on the turf, the Doge of Venice, but there is not any of his stock in this country to raise or diminish his fame, as he was sent to France. The fillies descended from Williamson's Ditto were superior to the colts; but this distinction is not so striking as with the others. He was the sire of Bacchante, the dam of Sultan, an honour sufficient to gain distinction. Olivia Jordan and Stella, the dams of Liston and Independence, have already been introduced as daughters of Sir Oliver. He was also the sire of Olivetta, the dam of Rainbow, Adventurer, Autocrat, and Halston; and of Olympia, the dam of Elis and Epirus, great-grandam of Orlando, and consequently great-grandam of Teddington. Great merit is due to Master Henry as the sire of Banter, the dam of Touchstone, while his blood (Master Henry's) is not transmitted through a male descendant to the studs of the present day. In Sir Oliver's pedigree there is a strain of blood to Soreheels, foaled about the year 1720, who is described as having been a very bad stallion, but that his sister was an excellent brood-mare. It would appear that the property is a family heritage of ancient standing. The lineage of Orlando, the sire of Teddington, affords a double confirmation of this peculiar tendency, to explain which it is necessary to insert his pedigree.

He was by Touchstone, out of Vulture, by Laugar; her dam, Kite, by Buzzard, out of Olympia, by Sir Oliver; and as Touchstone was by Camel, out of Banter, by Master Henry, the peculiar property of the two sires is rather singularly brought into contact.

Every breeder of horses, and indeed every other person

who takes an interest in the subject, enjoys his peculiar fancies and affections for certain lineages of the equine race. This extends in some instances to prejudice; but the rejection of blood, from which hereditary or constitutional infirmities can be transmitted, should be maintained with the utmost resolution. Some persons are of opinion that the most probable means of producing a race-horse of the highest pretensions, is by the union of speedy blood in the sire, and stout blood in the dam; others contend that the qualifications of speed and stoutness should be reversed; each bringing forward examples in support of their arguments. The theory of stoutness on the part of the mare is a good one, inasmuch as it implies soundness of constitution, a most important qualification in a brood-mare; at the same time it does not follow but a very speedy mare may be gifted with a sound constitution. There never was a gamer horse than Venison, his female ancestors were of a speedy family. The same may be said of Teddington, especially of his paternal grandam, Vulture. The stoutest mares have not on all occasions proved the most successful in the stud, for instance Camarine, Catherina, and Alice Hawthorn. It is by comparing the results of past events like these that breeders are most successfully guided in making judicious crosses. Venison and Teddington furnish a good precedent; the Smolensko and Gohanna blood which flowed in the veins of the dam of Venison were celebrated for speed, that of Partisan, his sire, for stoutness—per contra, in Teddington speed is recognised through his sire, as Vulture, his paternal grandam, was one of the speediest mares of her day, and although she could not, in racing *par-lance*, stay a distance, Teddington had the quality of endurance with great speed. The lineage of such worthies as Alice Hawthorn, Nancy, the Flying Dutchman, Stockwell, Bataplan, and Virago, will supply breeders with precepts applicable to the present generation, to guide them in their choice of those crosses which are most likely to prove successful.

To determine by the external appearance of a horse on the qualifications he may possess, or what he may be able to perform, is an exercise of judgment with which the most experienced are not endowed. Appearances are so fallacious, that the most skilful will find themselves mistaken; this applies both to racing and breeding, therefore much must be left to future development. If breeding horses could be reduced to a system like a sum in arithmetic, or an operation in chemistry, there would be an end to speculation,

and the exciting interest with which it is accompanied would be wanting. It is not to be inferred from this that chance presides unreservedly over its destinies, far from it; there may be and are some extraordinary incidents which occasionally embellish it with something akin to that character, but they are the exceptions, and not the rule. Those who take the most pains to investigate causes and effects will be most successful in the enterprise of breeding horses. Temper is a qualification of great importance, and this expression must be accepted with a comprehensive meaning; not simply to convey the idea of docility, but the combined attributes of courage, or good-will to exert the physical powers to the utmost extent; and in proportion as a horse is gifted with physical capabilities and the will to exert them, so will he maintain a position among his class. There are instances of horses being endowed with perfect symmetry, great power, and the most exquisite action, all of which is of no avail, because they do not also possess the energy to give effect to those good qualities. Again, there are some having the will but not the power. Stepping from the race-course to the hunting-field, we often see a moderately sized but highly bred horse going fresh and well at the end of the day, with a heavy weight upon his back, while another of nearly twice his bulk, but wanting aristocratic lineage, carrying only a light weight, is beaten before the run is half over. It is evident in this latter case that the energetic disposition is deficient. This energy is influenced by the degree of nervous excitability of the brain, and the nervous system which influences the muscles of locomotion, and it shows how much more thoroughbred horses are gifted with the relative proportions of nervous excitability than mongrels. This subject affords a very expansive field for observation, although it is one which breeders seldom take into consideration. It is the presence of an equivalent portion of nervous excitability of the brain and nervous system, influencing the muscles of locomotion with physical power, which combine to establish the perfection of endurance. If the nervous excitability be in excess, and the animal is gifted with good action, speed will be his *forte*. This is manifest, because the exciting energies of the nervous system exhaust the muscular powers too quickly to enable the animal to continue beyond a short distance. If again those proportions of nervous excitability be slightly wanting, and the horse has a powerful muscular conformation, his energies may be aroused to a certain extent by artificial means. Here much discrimination in the rider is necessary,

otherwise the object is defeated. But if with great muscular power the nervous energies are extremely deficient, the animal will be of little value. This may to some extent afford a reason why very large horses are seldom very good ones. The two essentials, the will and the power, must exist in all horses which perform extraordinary feats. The most competent judges are not able to decide upon the merits of a horse until those merits are tried. A moderately experienced person can determine if the essential points, such as the shoulders, back, loins, and quarters are in conformity with the generally acknowledged opinions of symmetry; he can tell also the animal being in working condition, if he shows a fine development of muscle and sinew; and the action will afford a fair criterion whereby to judge if the muscles, sinews, and levers be proportioned to each other; but no one can tell whether the horse possesses the energetic will to put all his powers into effect until he is tried, for whatever purpose he may be adapted. To convey evidence upon this point the head is the most important organ. In favourable cases the contours are agreeably traced, the lines are most beautifully developed, with a fine expressive eye, full of vigour and energy. But these signs may be fallacious; they may indicate a choleric, fiery temper, impatient of reasonable control, which will occasion the speedy prostration of the muscular system. At the same time that a neat, light, well-formed head, may generally be considered as indicating superior corporeal powers; a dull, heavy, sullen aspect is a pretty sure index of the reverse. The spinal marrow which passes through the whole length of the vertebræ is the vital cause of muscular motion, and from it the nerves issue. This spinal marrow is a continuation of the posterior portion of the brain, and as all this wonderful and beautiful machinery is entirely hidden from inspection, the fallacy of judging from external appearances is readily explained. Racing is the medium through which these characteristics are discovered; and breeders will find it to their advantage to investigate minutely on which side the balance preponderates, whether it be in favour of the will or the power. By this some of the uncertainty connected with the speculation of breeding horses will be overcome. If the sire be of very energetic temper, he is a good cross for a mare possessing power, with a dull, phlegmatic disposition. Those who have devoted their attention to the many interesting subjects connected with the racing career and the lineage of the equine race, are aware

that the most valuable qualities that the horse can display will sometimes lie dormant through a generation or more, and then burst forth with renewed distinction. There can be no doubt this is occasioned by a deficiency of the exciting force or energy of the brain and nervous system which influences the muscles of locomotion—for that is the power which moves the machinery. This inestimable faculty may be affected and sadly deranged, by accidental causes or injudicious treatment. If an animal be frequently and seriously alarmed or punished, it will have a marked and visible effect upon the nervous system. This will influence the muscular powers, and render them incapable of merely slight exertion. This is exemplified by the animal breaking out into profuse perspiration. Rational modes of treating young horses are by far more generally known and practised than they were only twenty years ago. The ordeal which many of them had to undergo in bygone days in the hands of inconsiderate persons, for the purpose of preparing them to run for early engagements, was well calculated to raise an outcry against the practice of training them at two years old. Even the probationary exercise of lunging was carried often to an excess prejudicial and dangerous to the nervous system, the muscular powers, and the delicate texture of joints and tendons. A moment's reflection will determine, that if a young animal, or indeed one of mature age, be wantonly excited to perform so much labour as to occasion exhaustion of the muscular powers, the sympathy existing between the muscular and nervous system will interfere to restrain such aggressions in future. The more we scrutinize the elaborate and beautiful works of nature, the more we must admire the wonderful order by which they are regulated. If one portion of the animal frame in its influence over another subdues, distresses, or injures it, some superior faculty interposes to keep the machinery in order. Thus, in the event of extreme exhaustion, the muscular powers of the animal having been set in motion by the brain and the nervous system, man in his ignorance, by over-exciting the nervous system, causes the muscles to be excited beyond the limits of convenience and reason. The brain and nervous system participate in this, being the primary agent acted upon, and in its turn acting upon the body, of which it forms a part, on a future occasion declines to exert itself; in a word, the generous temper and high courage which previously adorned the victim is dispirited and broken. If, however, the nervous system be

more highly gifted, so that it overcomes the muscular powers, the poor creature becomes emaciated and weak, losing its condition sometimes without an apparent cause.

A most decided example of this excessive irritability and predominance of the nervous system over the muscular powers occurred in a mare which I had in training some years since. It was evidently inherited, as her dam possessed it in a high degree, and also a half-sister, although she did contrive to win the Oaks of her year, was in like manner affected. So great was the nervous irritability of my mare, that all means were devised, such as changing the route to the exercise-ground, and always treating her with the greatest care, so as not to disturb the equanimity of her temper. After having run a few races, although she was never punished, her nervous excitement caused her defeat, so to speak, before she started. The only occasions upon which she could run were, when races took place sufficiently near to her own stable, that she could be led direct to the starting-post, ready saddled, and without affording her time for consideration, start her for the race; and under these circumstances she could run respectably. The usual preparation of walking her on a race-course prior to starting was quite sufficient to disarrange her nervous system, and would make a difference in her running beyond all calculation. Her race over, she would become perfectly cool and reconciled.

This extraordinary excitability of the nervous system is not confined to horses at the early stage of their lives, it may occur at any period; when they are in the breaking tackle, in the training stables, or when frequently engaged in running severely-contested races. -When the propriety of running long distances is advocated, together with the imaginary superiority of the horses of olden times, who were accustomed to those performances, a most conclusive answer is at hand; such practices were calculated to produce a serious injury to the nervous system, which are in many instances entailed upon the progeny. This may be accepted as a principal reason why horses and mares, more especially the latter, when they have passed a long career on the turf, and are worn down by frequent running, seldom produce foals of much value till they have enjoyed several years of respite. Horses having undergone, in the necessary ordeals of training, and in severe contests on the course, the utmost trials which their frames are capable of sustaining, it cannot be expected that on a sudden their constitutions will assume the change required in the stud. Besides

that which has been already described, the physical or muscular system has to undergo a renovation. A horse may be virtually uninjured by his labours when he bids adieu to the race-course; but it may, and frequently does, require years of repose before the system can be brought into that state which is necessary for him to gain distinction as the progenitor of first-rate stock. The means adopted in many cases are the adverse of those which are calculated for the purpose. After having finished his career on the turf, for which it is necessary that he should perform a vast deal of work, all at once he is destined to a life of indolence; doomed to the very limited space of his loose box, he is scarcely permitted to enjoy the advantages of walking exercise. The energies of the trainer were devoted to prevent the accumulation of undue portions of fat—the stud-groom devotes his earnest attention to produce the utmost degree of plethora. Nature will not permit such liberties to be exercised on her choicest favourite with impunity. The most important functions of the animal system become out of order, because they have been so rapidly changed. Is it wonderful that the legs should become suffused, that cutaneous disorders should deprive the coat of its brilliancy—which, by the way, had hitherto been an object of the greatest assiduity, but which is now neglected—or that roaring should succeed to catarrhal affections, which have been unnoticed? A long catalogue of disorders might be supplied which have their origin in injudicious treatment at this important crisis. When it is observed that the horse is about to become the sire of another, and probably a numerous generation, upon which he may entail many disorders and imperfections, the result of neglect, it behoves every owner of a stud to devote more than ordinary attention to the management of the favourite race-horse when he has concluded a glorious career on the turf, and is about to pass the remainder of his days as the sultan of a chosen harem.

The great difference which is on most occasions apparent in the condition of the stud-horse, and the brood mares, requires a passing comment. The former is generally in the highest state of excitement, his spirits bounding with gay delight, so that he can hardly be restrained within moderate subjection to the control of his attendant. This is the result of high keep and the natural temperament of the animal. But how different the appearance of the poor mare—she is comparatively in woful plight—she is seldom seen bounding in playful or joyous mood, but is seemingly con-

templating, with careworn anxiety, the troubles of a matron. To some extent this is a state natural to the pregnant female, but in many instances it is increased by the quality of the food, which principally consists of grass. The keep of horses and mares requires to be more nearly assimilated in order to render more certain the state of pregnancy, and more perfect the condition of the fœtus. Part of the food which the mare consumes is destined to afford nourishment to her embryo offspring, and like herself, it will have imparted to it some of the properties of that food; it is therefore most important that the nutriment which she receives should be of that kind which is calculated to establish a vigorous constitution.

The judicious selection of proper crosses is one of the most momentous considerations connected with the management of a breeding stud. An intimate acquaintance with the properties and propensities of the different families of the thorough-bred horse can only be attained by constant attention and careful comparisons of results, and whoever enters on the costly speculation without having minutely investigated these matters, does so with very little more than chance to befriend him. In making purchases of untried racing stock, it is equally essential. To those who speculate upon racing ventures it is a subject of no mean importance, for it will enable them to draw valuable inferences with reference to dark horses. The crosses which have from time to time been most eminently successful speak for themselves in the respective pedigrees of horses of celebrity; to attempt to enumerate them would be an irksome and unprofitable task. Every breeder can, by reference to the stud-book, select examples applicable to every mare. Acting upon the hints already given, that will be most successfully carried out by taking the most recent cases. When a mare has terminated her career on the turf she is very commonly consigned to the stud; in many instances without considering her worth in that department. Thus a vast number of foals are produced, many of which occasion disappointment. This is a difficulty which cannot readily be overcome; for the question arises, "What defects ought to exclude a mare from the stud?" Constitutional unsoundness and hereditary infirmities, no doubt; but beyond these, where is the line to be drawn? Unwilling to sell a mare for a trifling sum, the owner very often reconciles himself with the flattering excuse, that she possesses or inherits some sterling qualities, which may descend to her progeny, and he cheers himself with an example, such a one as that of Hero, for instance, whose

sire and dam were both unworthy representatives of their families, so far as their racing exploits gave evidence: they were, nevertheless, highly descended. A person who breeds for sale would never risk such a speculation, and this is again suggestive of an example. When a foal, the Hero and his dam were offered for sale on Bath Race-course at a low price, but failed in attracting a purchaser. Mr. Powney, who resides on a farm in the immediate neighbourhood, took compassion on the owner, and exchanged a few sovereigns—about twenty—for the mare and foal, and it was a lucky venture. Virago was sold when a yearling under the hammer for 500 guineas; she was the issue of a worthy sire and a dam of repute. Hence the vast difference in the relative value of these two celebrities before their excellences had been tested.

It must be confessed that there are too many mares used for breeding which are unworthy of the honour; but again it must be remembered that the produce in due time has to undergo the refining process through the medium of that inquisitive crucible, the race-course, which assists in some measure in the extirpation of weeds. Worthless fillies, the produce of worthless parents, may, in the possession of some persons, go on for a time; but there are few who do not soon become weary of breeding such rubbish. Thus there is an antidote to the evil. If the facilities for breeding inferior stock were confined to the females, the consequences would be unimportant; but, unfortunately, it extends to the males. It appears to be an irreconcilable contradiction that the public, who have to pay for the services of a horse, would ever patronize one, unless he was eminent for his good qualities, neither will judicious and experienced breeders ever fall into that error; but there are young beginners who do, and thus it is that animals, which never ought to be permitted to perpetuate their species, keep up a race distinguished for bad properties. These errors are committed only by a small proportion of those who embark in the speculation, and, therefore, the injury sustained is more the loss of money to the individuals, than any deterioration in the national character of the horse.

There is a mistake into which some of the most extensive, and it may be added, highly experienced breeders have fallen, that of not selecting a suitable partner for each mare. A stud of mares is got together, and they may be unexceptionable; a stallion is purchased, and he may be of the very best blood, altogether the most perfect animal of his

day; and yet there may be some mares, indeed several out of a number, from which it cannot be reasonably expected that the produce will be highly valuable. Setting aside the contingency of consanguinity presenting a rational impediment, there are many circumstances which ought to be considered as a bar to the union. Great disproportion of size may be one. Although it is held as a principle, and no doubt it is a good one, to correct any imperfections which are possessed by one parent by the superiority of those particular points in the other, attempts to rectify diminutive stature by the other extreme are generally productive of disappointment. The increased size to which the English thorough-bred horse has been brought has been accomplished by degrees, and nature is jealous of having her handywork outraged by excess. Disproportion in some of the limbs is commonly the result when great disparity of size characterizes the parents. If either the horse or the mare be defective in the shoulders, it should be determined that the other must be unexceptionable in that respect; the same distinction applies to the back, loins, quarters, thighs, hocks, and legs. There are some breeders who regard with insignificance the perfections of their mares, relying upon the merits of the horse for the perfection of the produce; but, to say the least of it, it is a most hazardous conception. It has been already remarked, that mares which have distinguished themselves most successfully on the turf have, in many instances, failed to produce foals of any value; and it has very frequently occurred, that mares which have only run a few races have been most successful in the stud. Very high prices have occasionally been given for mares to breed from, in consequence of the celebrity they have attained on the turf; but there are scarcely any examples of their having compensated the purchasers. The most valuable mares for the purpose are, undoubtedly, those which have bred runners; and, if their cost price is high, they generally remunerate the enterprising speculators by the superiority of their offspring. There is a great advantage attendant upon breeding from a mare whose produce has been tried in public, as by that means some of the characteristic faculties of her produce may be known, and which will afford a valuable criterion in the selection of the horse which is to become the sire of a succeeding foal. It appears to be a property inherent in some mares to breed all, or nearly all, their foals endowed with the same propensities, although the propensities of these foals differ from her own.

Thus, a mare may be gifted with great stoutness, and her foals more celebrated for speed; and there are also examples of speedy mares having bred foals which have proved particularly stout.

The success of a breeding stud will be regulated to a very considerable extent by the judgment which is exercised in the selection of mares. There are many which are considered very well bred, which are by no means desirable animals to breed from. It may be urged that a thorough-bred mare cannot be otherwise than well bred; but her lineage may go back to ancestors of unworthy pretensions, and on that account she may not be suitable for the purpose. She may also possess hereditary blemishes, either in person or in pedigree, which, unfortunately, more frequently develop themselves than the highest classes of perfections. Action is an accomplishment which in general does not command the attention it deserves. In racing, providing a horse gets his head first past the winning-post, no one would care whether it were accomplished by the most uniform and exquisite motion of the limbs, or whether it could be performed by an entertaining succession of summersaults. The qualities which win fame on a race-course are speed and endurance, no thought is bestowed in what manner the propelling power is effected; and these propelling powers are sometimes combined with very indifferent action. This in a race-horse, so long as his services are confined to the turf, is a consideration of no importance; he may be valuable for that purpose, be his action ever so faulty; but in the stud it becomes a very different affair. Action is very commonly entailed upon the offspring; more frequently than speed and stoutness, to which good action is generally an important improvement. It can scarcely admit of a doubt, that the failure which has attended many horses and mares, which have been good runners themselves, but which have produced very inferior stock, may be in many instances traced to defective action. The conformation which conduces principally to this perfection for racing depends greatly on the hind legs, the thighs, the back, and the loins; from the shoulders the motive power of the fore legs proceeds. For racing purposes, the quality of the fore legs is not of equal importance as in those animals which are destined for hunters, or riding horses. This opinion is evidently maintained by many of the most experienced breeders for the turf; because they continue to breed from horses in whom this failing is hereditary. So long as the shoulders are gifted with the power of free action, and the

fore legs are sufficient to act as props to the machinery, by the aid of boots, bandages, and such like appendages, the legs may be kept in tolerable order for a time, and enable a horse to run for his early engagements. But yet to how much anxiety, and often loss, does this imperfection subject the owner. There is a constant apprehension that the legs will fail. Every sweat, every gallop which a horse with infirm legs takes, in his preparation, excites his owner to nervous trepidation, fearing that a break down may be the consequence. In racing the anxiety is still greater. No prudent man likes to encounter the additional risk of backing his horse for a race when the legs are of defective quality. The effect is often extensive, and is not restricted to actual lameness, or breaking down. Horses which have weak fore legs will tire in those limbs before they experience distress in other parts of their frames; this, of course, affects their running and occasions their defeat.

There is a certain refinement of form, a gracefulness of outline, an elegance of motion and aristocratic bearing, characteristic of a high-bred mare, which merits distinction. Breeders often show a great predilection for what they term fine, large, roomy mares; they are often pertinaciously uncertain in their produce; one year their foal is undersized, and the succeeding one it is overgrown. The Arabs are said to attach more importance to the perfections of their mares than to those of their horses. English breeders might take a profitable example in this respect from them. They frequently breed from inferior mares, at all events, some whose merits have not been tried; but very rarely, indeed, from horses which have not gained some reputation on the course, let their pedigrees be ever so pure and unexceptionable. In the early days of breeding it was by no means an uncommon practice. The only modern instance of an untried race-horse gaining repute in the stud was that of Defence. The high premiums paid for the services of stallions of fame, and which breeders are willing to pay, affords convincing proof of the importance which is attached to the sire. Horses of very great pretensions are patronized at 50*l.* each mare, descending to 10*l.* as the minimum for sires of respectable eminence. At the present day the number of stallions is considerably above the average of former years, which tends to a diminution of charges even of first-rate horses; and as they descend in the scale of estimation, the reduction is more conspicuous. This is a fact which cannot be regarded in any but a fortuitous aspect; being a greater number, there is a

greater variety, and a more copious field for choice. When we examine the question as to the influence of the sires, compared with the dams, on the breed of horses, the increase in the number of the former must be accepted in a most favourable position. It would, indeed, be a boon to this country if there were a law, as there is in France, to interdict the procreation of horses possessed of hereditary infirmities. Before the owner of a stallion is permitted to offer the horse as a candidate for public favour, he must be examined and approved by an officer appointed by government, a powerful guarantee against breeding rubbish.

It has already been observed, that of the nine hundred and forty-one foals produced in 1853, about one-half of them are by thirty sires, the chosen favourites of the nation; this gives to them an average of about sixteen each; but on referring to the table at page 54, which exemplifies the number of foals by the most celebrated stallions, the three which stand at the head of the list more than double that average. Presuming they may continue in the stud on the same favourable terms during a period of ten years, they will be the ancestors of a numerous progeny. A mare in one season produces but one foal; but the horse may be the sire of numbers. Suppose that, in the course of her life, she may produce ten foals in thirteen or fourteen years, the stallion, during a similar period, may be the sire of some hundreds. If he be a bad representative of his species, how extensive the injury which he may occasion. If a good one, and his good qualities are esteemed, how great the benefit which he will confer. Winning a Derby or St. Leger establishes a character for a horse when the time arrives for his being transferred to the stud. It is a criterion not to be disregarded, for there are but few, after having won one of those great races, which have not maintained their paternal dignities. The addition to the chaplet of laurels is greatly enhanced by winning a few of the highest class of weight-for-age races, such as Ascot and Goodwood cups.

Great encouragement was given, during a series of many years, to breeding cocktails, under the impression that it would cultivate a class of horses adapted for hunting, travelling, and other useful purposes. Like steeple-chasing, and other projects, it was very captivating in theory, but extremely deceptive in practice. It was at that time urged, that the weights and distances at which thorough-bred horses were accustomed to run promoted a breed of horses calculated only for speedy purposes, and incapable of carrying weights; in fact, the arguments which have been resuscitated with

invigorating warmth, were brought in existence many years ago, although they have lain dormant for want of reality and force. To remedy the evil which was supposed to be sprouting forth from the scions of the thorough-bred horse, it was attempted to encourage the breeding of powerful weight-carrying hunters, by means of a cross between the two classes. It was very soon discovered, that horses bred after such a fashion had no chance whatever in competition with those of superior lineage, either in their capabilities of running distances, or carrying weights; and all sorts of nefarious practices were introduced to take advantage of the unsophisticated owner of a veritable cocktail. To enumerate the cunning devices, and often brazen-fronted excesses, would serve to fill a volume of amusing narrative, but the relation of several of them would awaken reflections on individuals which have long since been lulled to rest on the pillow of oblivion; and there let them slumber. But it is amusing to recall our faculties of remembrance, as some of the pantomimic feats of former times dance before our eyes; when an aristocratic courser, not unknown to fame, was made to undergo the manœuvres of a harlequin, under the guise of a forged, fictitious pedigree. Another scene represents the produce of the thorough-bred mare exchanged for that of the half-bred, and the mothers with difficulty induced to cherish a spurious offspring. Dealing on more wholesale terms, a thorough-bred mare was occasionally removed from a distance—from some remote glen—with a fictitious pedigree, and she soon became the mother of a stud of cocktails. So clumsily were some of these legerdemain exploits conducted, that they could not fail to be detected; although many of them passed unnoticed, and many of the rules were palpably absurd. It was deemed sufficient proof if the sire or dam had been acknowledged as a half-bred one, that the progeny were so styled. Thus, if Mr. Green, in 1825, neglected to disqualify a thorough-bred mare, which might run for a half-bred stake, Mr. Smith, in 1835, was incapacitated from disqualifying the produce. In course of time, allowances of weights were accorded to horses with half-bred pedigrees, when running for all-aged stakes, and consequently they were very frequently introduced to those engagements; in fact, a horse of the third, fourth, or inferior class, was more valuable if he could be passed off with a flaw in his escutcheon. Eventually, those whose ancestors really did possess some stains, being for many generations crossed with the purest blood, having so little contamination in their veins, were so nearly equal to

those of acknowledged purity, that the allowance of weight became an absurdity, and an additional incentive to fraud.

That the object of promoting a breed of sound, useful, powerful horses was not accomplished by deviations from the customs of legitimate racing, is well known to all who have devoted their attention to the passing events on the turf during the last twenty years. In every instance they have had an adverse tendency. There is not an example in the annals of racing of a *bond fide* half-bred horse, that could defeat a good thorough-bred one of the same age, at high weights, over any distance of ground from two to four miles; and the greater the distance, and the higher the weights, more conclusive have been the results in favour of blood. Finding the good intention was a failure, and that many very serious inconveniences connected with racing were attributable to the practice of running half-bred horses, every discouragement was imposed by the highest authorities in the racing hemisphere, and, with very few exceptions, the course is once more clear of the abominations. It is but a mark of respect due to the good judgment and discrimination of the Jockey Club, to observe, that from the commencement they threw every discouragement in the way of cock-tail racing.

A circumstance occurred a few years since, about the period when the appetite for cocktail racing was becoming satiated, which is worthy of introduction, as it supplies evidence of the schemes that were adopted, and of the confusion which must have increased if the custom had been maintained. A gentleman, whose experience was limited, formed a small stud of brood mares, and purchased one described to him as being got of Manfred, and said to be thorough-bred. She was transferred to him through the agency of a country horse-dealer, famed for flexibility of conscience. This horse-dealer had been running the veritable Manfred mare for half-bred stakes, as a substitute for a *bond fide* half-bred one, and which latter was the identical animal he sold with the thorough-bred pedigree. She found a place in the stud-book and produced foals to several horses, but it is needless to add, they proved worthless as racers, and fortunately none of them have been kept for breeding. Surreptitiously introduced as they were to the aristocratic ranks of the equine family, it can create no surprise that they were unable to maintain a position in such exclusive society. There is a noble idiosyncrasy innate in the thorough-bred horse; his courage is indomitable, whether in contests against his fellows on the course, or in the chase. He evinces stoutness and courage when distressed

by pace, which is never equalled by those which have a blot in their escutcheon. The fraudulent devices of deceptive men might enable them to pass off spuriously-bred mares, but the degenerate offspring were sure to proclaim the cheat when submitted to the trial of the race. At various remote periods there is no doubt several mongrel-bred mares have been passed off as thorough-bred ones, and have gained admission in the stud-book. This will, to a certain extent, afford a reason for the very unsuccessful results which have attended the produce of particular families.

There is a circumstance which must not be omitted in connection with breeding half-bred horses, as it may serve as a beacon for other purposes. The most superior produce always resulted from the mare which was not thorough-bred, and the highest-bred horse. This principle is likewise acknowledged by the breeders of all other kinds of stock, whether cattle or sheep; and it is a subject of great importance to those who breed hunters and first-class riding horses. It leads to the conviction that the English thorough-bred horse, from the great care that has been, from time to time, bestowed in the selection of the choicest subjects, has now become a more highly-bred animal than the Arab, from which he was originally descended. This may afford another explanation to causes already named why the produce from Arabian horses and English thorough-bred mares are so utterly worthless. The results might be more favourable through the agency of Arabian mares with English horses. As the distinction of entailing certain qualities exclusively through the female line has been already noticed with reference to Sir Oliver and Master Henry, it may likewise furnish a hint on this occasion. It must here be mentioned that the most recent strain of Arabian blood that has been at all successful on the turf is that of Fair Ellen, by the Wellesley Grey Arabian, foaled in 1806. She bred Lilius, a winner of the Oaks; and some of her other more remote descendants, although they did not attain first-rate honours, were far superior to any others of recent date, so nearly related to Arabian blood. It was the opinion of the late Earl Spencer, who, all the world is aware, devoted great attention to the breeding of domestic animals, that the influence which each parent exercises over its progeny is in proportion to the antiquity and purity of the race to which it belongs. This theory may now be said to have received practical proof, and to be generally acknowledged.

From the numerous facts which have been advanced, each

bearing upon the most important points, we must come to the conclusion that the progressive increase of racing and breeding horses for that purpose has led to unequivocal improvement; and it is clearly manifest that the horses of the present day are superior to their predecessors in size, power, speed, and endurance. The augmentation of their numbers is unmistakeable evidence of the interest attached to the twofold enterprise. We may now take up another engagement, equally, perchance more inviting, interesting, and familiar to the public, that of breeding horses for hunting, riding, driving, mounting our gallant soldiers, and other useful purposes. The assertion has been made, and it cannot be rebutted, that the supply is unequal to the demand. However, we have the pure source from which they may be produced in great numbers, inadequate though they be to the requirements of the nation, but having the material, it is only incumbent upon us to bring it into effect upon the most advantageous terms.

When railroads began to spread their ferruginous lines over the surface of the country, a reasonable apprehension arose in the breasts of agriculturists and breeders, that the demand for horses would be very considerably diminished; this naturally induced them to reduce the number of their brood mares, and devote their attention to other descriptions of stock, from which they anticipated more profit. The resources for breeding horses of these kinds, as regards mares, are but limited, and, under any circumstances, some time must intervene before a great augmentation of numbers can be effected. According to the return made of assessed taxes, in 1850, the total number of horses used for riding and drawing carriages amounted to 166,460. If we add to these 264,682, to represent the number of horses of this class which were wholly or partially exempt from duty, exclusive of agricultural horses, it will be as many as we can account for. Presuming one half of these to be mares, and that one in twenty could be made available for breeding, besides those which are annually drafted for that service, it would only afford an addition of about 10,000; and they, according to the proportion of foals from thorough-bred mares, would not produce more than 7,272 foals; in all probability that number would be diminished, from the fact that less care and attention would be devoted to them. It is impossible to estimate correctly the number of mares devoted to the purpose of breeding, as we have no statistical returns.

The eye delights to feast upon that which is symmetrical and beautiful. There is no creature in the universe, the fair

portion of the human race excepted, in which the lines of beauty are so exquisitely defined as they are in a well-shaped horse. Whether we behold him in easy graceful action, bounding over the elastic turf; boldly facing the opposing barrier which disputes his progress in the chase; proudly stepping (perchance with a fair burthen upon his back) in the park; or gaily and gorgeously caparisoned with the paraphernalia of the battle-field; in either instance we admire him for his swiftness, his activity, his docility, and his unflinching courage. Accustomed as the English are to horses and equestrian exercises, it would, indeed, be an extraordinary event if Englishmen were not, as a nation, good judges of those points which in the horse produce the highest claims to perfection; and in all classes of society, from the highest to the lowest, persons pride themselves on their real or imaginary proficiency. Whether the amount of discrimination be great or little with which any individual, high or low, gentle or simple, may be gifted, nothing occasions a friend or acquaintance greater offence than an insinuation that his judgment in horseflesh is deficient. This for general purposes is a little species of self-vanity, which may be unimportant, at least so long as it is confined to purchasing; but when deficiency of judgment is exercised in breeding, it becomes a different affair. A worthless produce is not only an individual loss, but a public misfortune. There are many who are very fair judges of horses when they are in fit condition to be put to work, who are totally at a loss when they attempt to form opinions on breeding, or concerning young horses which are promising to become valuable animals. Almost every individual who has made the horse his thesis for writing, has given a description of the essential points which every animal must be gifted with that lays claim to excellence. It is a worn-out and unprofitable subject to dilate upon. Practice alone will make an adept in this art. To be a thoroughly good judge of horses is an invaluable acquirement to the breeder, and it is indispensable to him if he is ambitious of eminence and profit. The first considerations in making selections of horses and mares for the purpose of breeding hunters and riding-horses, will be to determine whether they are likely to produce foals which will be powerful, active, hardy, and sound. On the first point the greatest errors commonly prevail, especially among the agricultural classes. They frequently choose bulk, without regard to muscular development: this affords scope for the exercise of an expansive

field of observation. If bulk were most conducive to perfection, the most valuable animal would be the gigantic cart-horse, but his great size and weight is accompanied with slowness of motion, and a dull phlegmatic temperament. The nature of the substances of which he is composed is conducive to these characteristics. The bone is far more porous than that of a well-bred horse, and the muscles are of a more flaccid texture. There is a greater constitutional disposition to deposit fat in the cart-horse, and his want of activity renders him incapable of accelerated motion. These defects generally diminish in degree as the animal approaches to a more aristocratic lineage; and the most valuable kinds to choose for breeding are those which evince the greatest amount of muscular power, with symmetrical proportion, short legs, and a good pedigree.

Every person who enters into the speculation of breeding horses undoubtedly does so with a view to profit; next to breeding for the turf, his object will be to produce hunters gifted with the most valuable properties. No man, however good his judgment may be, can at all times feel certain that his mare will favour him with the object of his wishes; but failing in producing a hunter she may breed a clever charger, or hack, a cavalry horse, or an animal calculated for harness. With the first object in view, it is necessary that the mares be adapted to the desired intention, and some difficulty exists in procuring them. If a mare distinguishes herself in the hunting-field, her owner is unwilling to be deprived of her services until she meets with some accident, or becomes worn out by old age. The former of these may not interfere with her value as a brood-mare, but the latter is a serious impediment. To calculate upon having a powerful, vigorous, sound, and hardy progeny from an attenuated worn-out mother, shows an unjustifiable excess of confidence in the fickle favours of Dame Fortune. There is a greater difficulty at the present period in procuring desirable mares of this class to breed from than there was in by-gone days, when fashion was opposed to riding mares; that prejudice has been overcome, because it has been determined that mares are generally superior to geldings in constitution and endurance. Where there were ten mares seen in the hunting-field in 1825, fifteen would be seen in 1854. It is a common opinion, but a great error, that very large mares are the most eligible to breed from: they are of all animals the most uncertain in their produce; one year they will present their owner with gigantic foals, and perchance the following year with others

as much undersized ; they seldom observe the happy medium ; and it is from selecting great, loose-made, leggy mares for this purpose, that we have too many horses of that description in the fairs.

Those conformations, or more emphatically speaking, anatomical proportions, which are conducive to the utmost degree of speed in the race-horse, are not in general the most eligible for other purposes, such as hunting, riding, or harness-work. From this cause it frequently happens that stallions, which have been most successful as the progenitors of racing stock, have not gained equal renown as sires of hunters and horses of inferior classes ; and, *vice versâ*, many horses which have been the sires of celebrated hunters and hacks have been nearly worthless in the racing harem. This is a fortunate circumstance for the generality of breeders, as it enables them to procure the services of really useful sires at a more reasonable rate. Of the stallions which come within this category, may be enumerated, Fyldener, Master Henry, Spectre, Belzoni, and Manfred. All these are dead ; but it is from their descendants that we must expect to find horses and mares likely to distinguish themselves as parents of superior hunting stock. In days of yore there were some first-rate stallions in Shropshire,—Black Sultan, Transit, and a horse called the Hundred House Snap, a distinction which he took from the name of the inn at which he was domiciled. These horses established much of the good fame for which that county has been distinguished for its breed of hunters ; and there is still some of the good blood remaining. Generally speaking, the descendants of Penelope, highly valuable as they are for racing, are not to be chosen as the progenitors of hunters, from the undeniable fact that they inherit badly-formed fore-legs. There are, no doubt, exceptions, and Irish Birdcatcher is mentioned as one : before he gained so much celebrity as he has subsequently attained, and while yet in his native land, he was the sire of many very superior hunters ; but as the propensity exists in all animals to inherit defects from remote ancestors, it is a risk better to be avoided. There are some horses which have gained high honours as the sires of excellent stock, both on the turf and in the hunting-field, and their blood should be perpetuated with the utmost care. The most conspicuous of these are, Orville, Muley, Sir Oliver, Williamson's Ditto, and Pantaloon ; any of their descendants, unless contaminated with hereditary defects from other sources, are especially adapted to beget hunters and riding horses of the highest class.

With the most laudable intentions, suggestions have been made to encourage the breeding of horses especially adapted for the cavalry service. No one can doubt the absolute necessity of advocating this highly-important speculation: neither is it possible that any person can shut his eyes to the fact that a most emphatic impetus is wanting to induce agriculturists to devote their best energies to the breeding of horses, in order that a more efficient supply may be afforded for this and other purposes. It has been asserted by a gentleman who has made an imaginary problem, "the deterioration of our saddle-horses," the subject for his pen, that the English horses of the present day are such a degenerate race that they cannot endure the hardships of a campaign, and that they are too weak to bear their burthens in the battle-field. Let those who entertain such opinions remember the gallant charges made by our brave cavalry in the Crimea, and the delusion must cease. The clear breaches they made through the ranks of their enemies, such as were previously unheard of in the annals of warfare, decide at once the pluck of our countrymen, and the efficiency of their horses. That we have lost an immense number cannot be denied, but the causes originated in circumstances totally unconnected with degeneracy of constitution. One of the proposals made for the improvement of this class of horses is the introduction of Arabian sires. A few words will decide the fallacy of such a proceeding, which I feel assured will be re-echoed by every breeder of practical experience. The Arabians are too small, too low in stature for the purpose, and if they were crossed with large mares, under the impression that the mares would transmit to their progeny the height required by the military standard, the greatest incongruity of proportions would be the result. It is one of the greatest errors breeders of horses can fall into, that of attempting to obtain symmetrical foals by the union of parents greatly dissimilar in size and character; the offspring is almost invariably disproportionate, and consequently of very little value. Another suggestion equally objectionable was announced during the summer of 1854, and from the authority from whence it came gained some attention. In a report of the proceedings of the Royal Agricultural Society, we find the following notice:—"Improvement in horse breeding. Mr. Spooner, of Southampton, recommended the council to take measures with the Government, as well as with the local societies of the country, for improving the breed of horses for cavalry and artillery pur-

poses, with a view of obtaining animals possessing a combination of activity and strength in the highest degree. He thought that object would be obtained by encouraging the breeding of good saddle-horses from the best brood-mares capable of carrying sixteen stone, by the best stallions, well, but not thorough bred, capable of carrying a similar weight. He thought that such mares abounded throughout the country, although they were at present employed for draught, and other laborious purposes; he considered that the class of male horses to be used was the one now too frequently castrated; namely, a three-parts-bred hunter, capable of carrying a heavy weight up to the fleetest hounds; such an animal readily commands some 200*l.* or 300*l.*, when his excellences are known, and which may in fact be regarded as the most noble and valuable of the horse tribe. Mr. Spooner had little doubt that the system would in a few years result in the regeneration of the English breed of saddle-horses." With the most profound respect for Mr. Spooner's devotion to the good cause, there are several impediments to the success of his proposal. There is no three-parts-bred horse in existence that can live with hounds a mile when they are running hard; such an animal is deficient in speed, activity, and endurance. In a slow protracted run of three or four hours' duration, such an animal might manage to go through it, with great discomfort to his rider and distress to himself. He would be sick, and unable to make his appearance at the covert side for some time. That which is merely exercise to the thorough-bred horse, or one nearly akin to him, is punishing, toilsome labour to the mongrel. Farmers require no encouragement to induce them to breed from coarse, low-bred stallions: unfortunately for their own interests, they are too prone to do so, tempted oftentimes by the price at which the services of such animals are to be obtained. This is one of the principal causes of our horse-fairs being supplied with such an abundance of ill-shaped, worthless brutes. This fact is very readily determined by instituting inquiries how the worst-looking animals are bred; and it will be found that they are the progeny of coarse, under-bred sires. The kind of mares which Mr. Spooner proposes to breed from are undoubtedly admirably adapted for the purpose; but they certainly do not abound "throughout the country;" on the other hand, they are extremely scarce. If a horse by a three-parts-bred sire were to be offered to an experienced sportsman as a hunter, he would reject him at once. The highly-priced Leicestershire hunter, capable of carrying weight, is thorough-bred, or

nearly so ; if there be a taint, it is on the side of the dam. This principle was incontestably proved when cocktail races were in fashion, and has been previously noticed.

Measures calculated to encourage the breeding of horses suitable for cavalry purposes have not only been for some time desirable, but they have now assumed an indispensable character. It is a subject demanding serious attention. In order to effect this object most successfully, it is important that the utmost encouragement be given to breeding horses, without reference to any particular class, as an impulse by which greater numbers would be produced, and thus a supply provided for all purposes of utility. Prizes given for racing would not be productive of benefit, under any circumstances ; they would not fill the ranks of our cavalry regiments. Racing has been most successfully established ; what is now required is, to make it the interest of agriculturists to breed the best horses from the sources supplied by the turf. Great speed is not an essential in a troop-horse, at least not so much so as it is in a hunter. Quickness or activity is the desideratum, and that is very frequently not accompanied with speed. The long stride of the swiftest race-horse is not an especial quality in a charger, who in a more collected manner, with shorter step and quicker movements, is enabled to perform the necessary evolutions with much greater facility. The means by which encouragement to breed horses for the use of the cavalry would be most advantageously promoted would be through the agency of premiums offered by Government for horses exclusively adapted for military service to be shown at the exhibitions of the Royal Agricultural Society of England, and other influential agricultural meetings throughout the kingdom. There can be no doubt of the result, with conditions something to the following effect : A premium of 50*l.* for the best horse calculated for the Life Guards ; 30*l.* for the best horse calculated for the service of the Artillery or Dragoon Guards ; and 20*l.* for the best horse calculated for the Light Cavalry regiments ; with a reservation, that every horse exhibited shall be subject to be claimed for the service, at the regulation price of the class in which he is entered ; or possibly it might be advisable, on these special occasions, that the standing price be augmented. It would be necessary that the judges should determine in which class each horse should be entered, giving the owner the opportunity of withdrawing from competition, in the event of his not approving the class in which his horse is placed. This would prevent sanguine persons from entering

horses in ranks for which they are not adapted. There is no question but a vast number of horses would be exhibited: being thus assembled, it would save Government considerable expense and trouble in sending officers and agents to fairs, and would in that respect effect a saving perhaps nearly equivalent to the amount of premiums. Under these regulations it would not be necessary to place any restriction on breeders how they should attempt to breed their respective candidates. The eligibility of each horse would depend upon his own merits; and farmers would naturally devote their best energies to accomplish their object. While all the other branches of agricultural enterprise, stimulated by the friendly agency of reward, distinction, and profit, have made steady progress in the march of improvement, breeding those kinds of horses which come within the province of the farmer has not met with equivalent encouragement, nor made similar advances towards perfection. The description of horse best calculated for the military service is that which ranges from fifteen hands two inches high to sixteen hands, on short legs, with good sound feet; strong in the back and loins, with fine reclining shoulders, muscular thighs, active, capable of carrying upwards of fourteen stone, with hardy constitution. These must be the produce of stout mares, showing a fair proportion of blood, not essentially thorough-bred, neither of the coarse, heavy, mongrel, carting class. Short, powerful, compact, thorough-bred stallions, such as are not sufficiently speedy for racing, are the only animals calculated to beget a promising progeny. The present regulation prices, which extend from twenty-five to sixty guineas, in connection with the proposed premiums, would be sufficiently remunerative to stimulate persons to the speculation of breeding exclusively for the service, in which undertaking, if good judgment be exercised, many of the produce will be calculated for hunting or harness work, and they will be marketable at higher prices.

The custom occasionally adopted by agriculturists of breeding foals from three-year-old fillies before they are broken, is, upon general principles, a questionable policy, but under certain circumstances it may be rendered justifiable. When the demand is found to exceed the supply, which is the case at the present crisis, such measures may be resorted to with good effect.

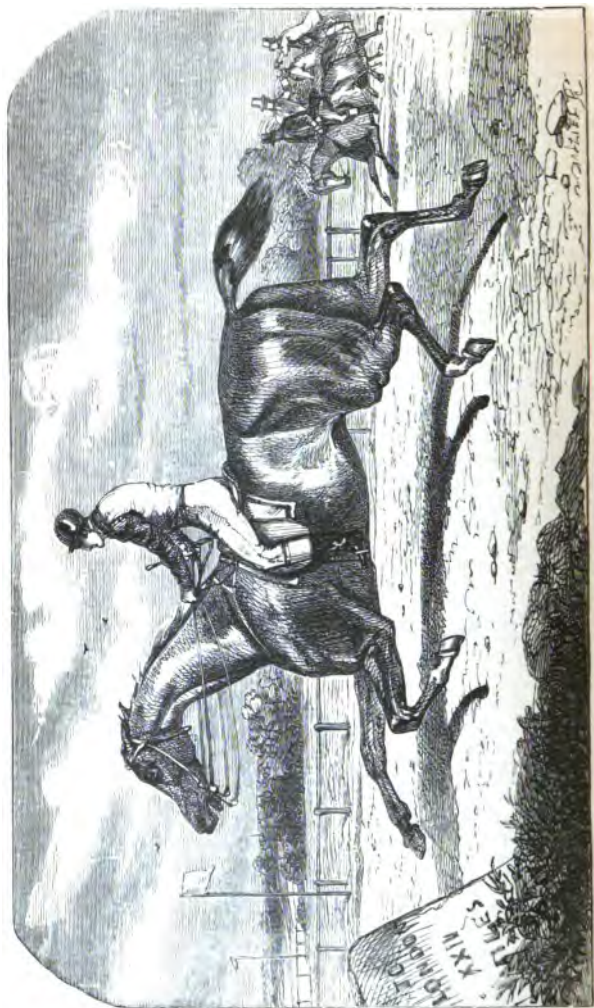
Few persons possessing adequate capital, with the necessary conveniences and all the means and appliances, would enter into the speculation of breeding simply with a view to rearing hacks; they aspire to the more ambitious project of

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breeding horses of greater value; but a very clever mare of this kind is by no means unlikely to produce a foal that will be remunerative, providing a suitable sire be chosen. In Wales there is a vast number of this class bred from ponies and galloways. They are, many of them, exceedingly useful, but they seldom realize high prices. This speculation is mostly confined to the wild, mountainous districts, where the land is of little value, and they are consequently reared at a trifling expense. In general they are well bred, being descended from thorough-bred sires, and if they were more perfect in their fore-legs, their value would be considerably enhanced. Their shoulders, too, are usually defective, and they seldom attain any size. This arises from two causes—hereditary entailment and defective keep.

Of the class which come under the denomination of roadsters, there are several kinds, differing essentially from each other, and they have all undergone considerable improvement during the present century. The carriage horse of olden times was a gigantic animal, sixteen or seventeen hands high, long-backed, leggy, and overtopped with upright shoulders, a large head, and often a Roman nose. Animals of this kind were selected to draw the family of a country gentleman in a heavy coach at the rate of six miles in the hour. The descendant of the present day is a neat, well-formed, compact animal, fifteen hands three inches high, on short legs, with good shoulders, a nice light neck and neat head; can trot ten miles in the hour with perfect ease to himself; and would have been esteemed by our ancestors calculated to make them a first-rate hunter. The hack is equally improved; from the plodding, slow, slovenly, uncultivated mongrel, he is transformed into an active, springy, quick, handy animal. The lady's palfrey is a selection from the most *élite* of this class. Ponies, too, are improved; they show more breeding and have better shoulders. These advantages have been gained through the agency of blood on the paternal side, and this affords additional example to that which has already been given on the subject of breeding cocktails. If any evidence were wanting to corroborate the assertion that the hacks of the present day are improved as regards symmetry, but especially in that essential portion, the shoulders, it may be observed, that a crouper to a saddle is very seldom seen; whereas our forefathers scarcely ever thought of riding without one, from the ostensible reason, that if they did, they would be seated on their horses' necks.

Comparing the thorough-bred horse with the cart-horse,

we are scarcely able to reconcile our ideas with the fact, that they are varieties of the same species of animal, so great is the distinction between them in their movements, appearance, temper, capabilities, and habits. They stand at the two extremes of the equine tribe. The cart-horse is useful for only one purpose, that of draught. The thorough-bred horse is useful for many purposes. If taken from the race-course, he makes the most superlative of hunters; he is undeniable as a charger, and equally good in harness; and, with some exceptions, he makes the best of hacks; and when, poor fellow, he is worn out in those services, he will go to plough with the most amiable docility. The more persons are acquainted with him, the more highly will they value his numerous properties. The breed of cart-horses requires improvement most extensively; in fact, it requires remodelling altogether. As a class, they are the most imperfect of our domestic animals. They are slow, weak, inactive, lumbering mountains of horseflesh. They consume an enormous quantity of food, for which they afford very inadequate compensation. It may be urged that the enormous dray-horses which we are accustomed to see in London are grand animals of their kind, and useful for the purpose to which they are applied. As to their grandeur, that is a matter of taste. A thick-lipped negro woman may be an object of admiration to one of her own countrymen. The usefulness of the huge dray-horse would be much better supplied by an animal of a more active kind. It is an ancient custom which maintains them in their position. Horses of a lighter and quicker character have been substituted in London for purposes of moving equally heavy loads, and the advantages are acknowledged. For agricultural purposes, the heavy, hairy-legged cart-horse is totally unsuitable. Farmers persevere in breeding them with a view to selling the largest of them for London dray-horses. When attached to the plough they are too heavy and too inactive. In some counties it is usual to see three or four of these sluggish animals at plough, whereas, in others, a greater proportion is done by a pair working abreast. I do not mean to say that all kinds of land can be broken up by a pair of horses at all seasons, that is, where the land is very strong, and when it is very dry, but when it is in that state it can scarcely be considered proper to work it till it becomes ameliorated by rain, in which condition a pair of horses is sufficient, providing they are of the right sort. A more active and a better bred animal is required. I have already observed, that the thorough-bred horse and the cart-horse

stand at the two extremes of their species, and I can by no means propose that an improvement of the breed of cart-horse should even be attempted by the intermixture of the classes. The extremes are too widely opposed to each other; and although occasionally resorted to, the success is very equivocal. Not only are the anatomical proportions extremely different, but the constitutions also. Nature will not submit to such incongruities. The improvement must be accomplished by a more assimilative progress—by characters whose qualities are not so extremely different. The most perfect animal of the kind I ever saw for the purpose of improving the breed of cart-horses is a stallion called Cleveland Short-legs, the property of Messrs. Hall, at the Dudding Hill stud farm, near London, an establishment named in the early pages of this volume. Active mares, such as may be found in Yorkshire, Shropshire, the adjacent parts, and some others of the horse-breeding districts, of a better order than the common, heavy, cart description, put to him, could not fail to produce foals of a very superior stamp for agricultural purposes and heavy draught. The attainment of greater quickness, more energy, and more compactness, with less unprofitable lumber by the selection of parents possessing those qualities, would in course of time effect a vast improvement in our breed of useful working horses.

Of the cart-horse tribe a very superior specimen may be seen at Mr. Henry Bailey's, Wallgaston, Berkeley, in the county of Gloucester. He is a young black stallion, called Kohinoor; of most perfect symmetry, on short clean legs, combining great muscular power with extraordinary activity, and is in every respect a perfect model of his class.

A breeder of thorough-bred horses has a manifest advantage over him who breeds half-bred ones, on two very essential points. The former knows to a certainty how his mare is descended, and can obtain similar information concerning the horse which he may select; he is thus able to avoid consanguinity. There are few half-bred mares whose lineage can be traced beyond a generation or two, and there are many very promising ones in appearance whose ancestry is not known. The propensity which stock has to the resemblance of a distant relative in character, imperfections, and constitution, renders the breeder of half-bred horses liable to much uncertainty in that respect. More perfections are combined in and transmitted by the thorough-bred than the mongrel-bred horse. A person may be in possession of a mare showing a considerable portion of pure blood, and in

appearance promising in every respect, yet her grandam or grandsire may have been a cart-horse, and she may favour her owner with a prototype. This is doubly hazardous, unless the sire is of aristocratic lineage.

It is a very frequent exclamation, that breeding horses is attended with so much uncertainty, that many persons have been deterred from the speculation, or have relinquished it from disappointment. True, Nature sometimes perplexes us with casualties which we did not contemplate, yet a little investigation will elucidate and explain causes; and again, they will serve as monitors for the future. A chestnut horse and a bay mare may produce a gray, a brown, or black foal; but in all probability it will be discovered on inquiry that some ancestor was of a similar colour. When breeding for the chase or the road is the object, colour is a consideration of some importance, and that will be most successfully regulated by selecting parents whose ancestors were generally of the most fashionable colours. It frequently happens, both with mares and stallions, that most of their progeny are of different colours from themselves, from the cause already mentioned.

Hereditary defects, among which may be enumerated spavins, curbs, roaring, and constitutional blindness, may lie dormant in the immediate progenitors, and make their appearance in the offspring; but it will nine times out of ten be ascertained that the imperfection is a family inheritance. No surprise ought to be aroused by such events, and when they transpire they should be attributed to want of caution. It is to guard against such casualties that circumspection, study, and experience are valuable; and the more judgment there is exercised the more satisfactory will be the results of the undertaking. Beauty, symmetry, and action are essential qualifications; for the price which may be obtained for a handsome young horse with showy action, far exceeds that which can be procured for one whose only merit consists in his goodness, without style and appearance to recommend him to notice. The value of the latter is not estimated until his good deeds have established his fame, and it may not be in the power of the breeder to put them to the test, or having done so to give them publicity.

CHAPTER VII.

TREATMENT AND MANAGEMENT OF THE HORSE.

THE STABLE.

THE first thing of importance in the treatment of a horse is the building which is provided for him, or his stable. Perhaps the best way of treating the subject is to show what his stable ought not to be, and that, unfortunately both for the animal and his owner, will be to show what it too generally is.

In the first place, it ought not to be dark; and in this respect there are but too many proprietors of horses who will, in their practice at any rate, be at issue with us, though the total or partial blindness of their horses should have taught them better; for from this cause in general springs the blindness of the animal, which, by nature, is no more pre-disposed to blindness than is his owner. And not only does a dark stable affect the sight of a horse, but his general health also, especially, as is often the case, if he be immured in his stable for days together. Light is just as essential to a healthy condition as food itself, and an animal can no more thrive without the one than the other. The man who invented dark stables was no doubt the progenitor of him who invented the barbarous practice of docking and nicking horses' tails.

The window should, if possible, be at the south end of the building, so that the animal, if not at work, should, as much as possible, get the benefit of the sun's rays, which, whatever some persons may think to the contrary, were really made as much for the benefit of horses as men. The door should be towards the same aspect. The window should go close up to the ceiling, and may come within four or five feet of the ground. When the window is constructed so as to admit a sufficiency of light, the internal walls should not be white-washed, as the light reflected from a white surface is highly injurious to the eyes; they should be of a dark gray colour, and this is easily effected by mixing a little lamp-black with the lime-wash.

The next thing to be considered is ventilation; and this—as stables are commonly ventilated, or rather not ventilated—

is believed to be of no moment whatever. In many old country stables we find the door made of two portions, the upper one opening whilst the lower one is made fast. This is very well for farm stables; but this construction is not adapted for those where horses of the higher class are kept. With a door of this description, open at the top, and a lofty window at the other end, open at the top also, a draught takes place which is above the horse's back, and will ventilate the stable thoroughly, especially if the stable be lofty, as it always should be, though it is in general constructed so as to have a hay-loft over it—a great convenience, no doubt—but one which should not be permitted to reduce the height of the stable itself to some seven or eight feet; in which circumscribed space a team of horses is often confined for the night, under the necessity of breathing the same air as they have expired. To expect horses to be healthy or sound under such a condition is to expect an impossibility.

A little consideration will show the importance of perfect ventilation. The air which the horse expires is as totally different a substance to that which he inhales as wood is from iron. He inhales atmospheric air, and the constituents of this pass through his lungs, and into his blood; he expires carbonic acid gas, one of the gases most inimical to animal life, as any man may convince himself who will go down into an old unused well. If this deadly gas be not carried off by proper ventilation, it becomes mixed with the atmospheric air of the stable, and is again inhaled, to the great injury of the animal's health. The greatest care is also requisite that it should be thoroughly carried off, and this can only be done as it comes out from the animal's body; when cold, it is heavier than atmospheric air, and sinks to the floor of the stable, in which case it is not so easily got rid of, but may lay the foundation of diseases innumerable, and will certainly shorten the usefulness, if not the life, of the animal. From this, as much as from any other cause, horses may truly be said not to live out half their days.

A thorough ventilation is as necessary in the winter as the summer, and there is infinitely less risk of injuring the horse by cold than by allowing him to breathe expired air over again. If accustomed to proper ventilation, he will never take cold from any judicious means adopted to promote his health and comfort. Pure air in winter is as necessary as in summer; whilst in the summer the more that can be admitted to cool the stable the better. The building should, then, be so constructed, as in summer to admit the greatest

possible quantity of cool air, and in winter to admit sufficient for the preservation of the purity of the atmosphere, without running any risk from cold draughts. Care must also be taken not to admit draughts of air near the horse's heels, or diseased legs will be the result. Draught cannot be too carefully guarded against, nor is it requisite that such should occur, if a little forethought only be exercised. Some writers on the subject advocate a chimney-shaft to be erected in the stable, by which the foul air can best escape, and also the admission of fresh air over the animal's head by means of perforated zinc.

The next consideration—and it is not less important than either of the preceding—is that of cleanliness. Too many persons believe, or they act as so believing, that the more a horse stands and sleeps amongst the filth of his own litter, the more he thrives. This is an error of ignorance, or of idleness—perhaps both combined. The effect of it, at any rate, is to make the animal, in addition to breathing his own breath again, inhale the foetid ammoniacal steams which arise from his own ordure and urine. We have even heard farmers defend this mode on the ground that the manure is better, as though the manure were worth anything in comparison with the horse.

Men who reason thus are of the same class as those who strew their manure over the yard in order that the rain may wash from it all the ammoniacal salts, so that it may be rendered the worst adapted possible for the use intended. Yet were their wisdom questioned, they would sneer at any one who might give himself the trouble to instruct them, as they no doubt will at us, when we tell them that cleanliness is as requisite for a horse as for a family.

A brick or stone stable floor is the best; if the latter, the stone should be roughened with small furrows; and in either case a deep drain sunk outside of the stable is necessary, for keeping it perfectly dry, without which either brick or stone floors will be prejudicial from damp. This is of the utmost importance. Neither should such drains be used to carry off the urine. The floor should slope an inch to a yard; but only to the gutter which carries off the urine. Indeed, if this is carried off by an iron pipe with suitable openings, so much the better. A tub sunk outside the stable as a receptacle for the urine, will soon amply repay the farmer for his trouble; it is too valuable to be permitted to diffuse itself over the dung-heap in the yard, to be washed away with the first shower of rain.

Litter should always be allowed for a horse to stale upon, as it is easily removed; and a little water thrown down occasionally will keep the stable free from smells. Nothing can be more offensive either to horse or man, than the smell of putrid urine; whilst, if this be permitted to run into a proper receptacle, and a little sulphuric acid added occasionally, nothing can exceed its value as a manure, which the farmer should be as careful to preserve as he is the corn which it fertilizes.

Within reason, the more room a horse has in his stall, the less liable will he be to swollen legs. In no instance ought he to have less room than six feet, and if ten can be afforded him, so much the more will he thrive, the comfort being especially felt after a hard day's work. Loose boxes are indispensable to horses of value.

A perfect stable should never have a hay-loft over it. This, of course, will give a little more trouble to the stableman; but where the comfort of a horse is concerned, that is of no consequence whatever. A deep manger, with two or three iron bars across, is far preferable to a rack or well for the reception of hay, and will more effectually prevent waste. An arrangement for water should also be provided. The front must, of course, be boarded up, with the exception of the part from which the horse eats. The advantage of this arrangement would be, that all the hay would be eaten, and not pulled down, as is generally the case, and trodden under foot amongst the litter. Much hay will be saved by the use of a deep manger as a substitute for a rack; and an equal saving would take place in corn, if the manger were made to slope slightly inwards, instead of outwards, as is usually the case. It would exceedingly puzzle a wasteful or mischievous horse to throw his corn out of such a manger, if deep enough; but for this, the manger as usually constructed affords him every facility.

Dung never ought to be allowed to be swept up in a corner, as is frequently the case, and all wet litter should be removed. In short, the more pains that are taken relative to a horse's comfort in a stable, the more will he repay those pains; and the farmer, especially, can have no better assurance that the more the horses thrive, the more will he himself thrive. The very fact of his attention to his horses, independently of the more effective work arising therefrom, will beget a similar habit of attention to everything else.

THE HORSE'S FOOD.

This should be oats and hay of the best quality ; beans for hard-working horses, occasionally varied with carrots or Swedes ; bran mashes ; and, under some circumstances, linseed gruel. Many persons are not aware, that the price of musty corn and bad hay is vastly dearer than that of the same commodities of good quality—and that the worse the quality the higher the cost. It is so nevertheless—for whether the purchaser of inferior articles bargain for it or not, he always purchases with them indigestion, foulness of blood, looseness of the bowels, general debility, and glanders ; all of these being too costly to be purchased into any stable. We once knew a farmer whose practice it was to sell all his best articles, and keep the refuse of the farm for his own horses : the consequence was, that he never was without glanders or some other disease in his stable ; and there was not a carter in the parish who did not give his team a wide berth wherever he met it with his own horses. It was the man's system, nevertheless ; and he either could not see its banefulness, or he would not alter it ; so he died at last from it, having caught a glanderous infection from his own stable. Mr. Spooner, in speaking of this subject, thus testifies his own experience :—"I have known a serious loss sustained by a proprietor of post and coach horses, from keeping a considerable stock of oats, and neglecting to turn them ; many horses became glandered and farcied, apparently in consequence of this circumstance."

Much has been said of late respecting the advantage of bruising oats, and various machines are much in vogue for the purpose. Mr. Spooner says of them, "they are apt to produce diarrhœa, especially if the animal is worked hard." It is further alleged that many horses will not eat them with an appetite ; and the opponents to the system go further, urging that unbruised oats excite a flow of saliva, necessary to perfect digestion, which is not the case with those which are bruised. The explanation to the first of these questions supplies a very strong recommendation. The stomach having derived a sufficient quantity of nourishment from a moderate portion, does not require more. With reference to the flow of the saliva, without entering upon the question how far it is necessary to assist digestion, no animal can swallow its food without a sufficiency of saliva to assist the act of deglutition ; and it is not recommended to reduce the oats to flour, but

merely to bruise them. Many persons fancy that by giving oats in small quantities, and spreading them thinly over the manger, the horses will be induced to masticate them. Those who have watched their operations will find that a greedy-feeding horse will drive his corn up into a heap, and collect with his lips as much as he thinks proper for a mouthful.

Little, if any, advantage arises from cutting hay into chaff, especially for the most valuable kind of horses. It is done in cart stables to prevent waste, which is often enormous in those departments where horses are permitted to pull the hay out of their racks, and tread it under foot.

The state of perfection to which the higher classes of the horse have been brought in this country, is attributable to the great attention devoted during a long period of time to the selection of the best descriptions for the purpose of perpetuating the species; the treatment they have received, under the influence of a propitious climate; and the nature of the food with which they have been supplied: greater improvements are capable of being realized by judicious management.

With reference to treatment, and the climate of this kingdom, practical experience assures us that the atmosphere is suitable to the constitution of the equine tribe; but the vicissitudes of the elements are so great, that protection is necessary to guard against their effects. This is found to apply, not only to the horse, but to all others of our domesticated animals. Warmth, in connection with a pure and uncontaminated air, is of the utmost importance; but it is not necessary to enter into the details by which that desideratum is to be accomplished. The subject of food requires more minute observations, especially as it is too frequently disregarded, except by breeders of race-horses.

The great perfection of the physical powers of the horse is obtained by the due proportion and constituent elements of muscular fibre, bone, and sinew; and the more these substances are respectively condensed, so to speak, the greater the amount of power will there exist in a given bulk. Every description of food which is said to contain nutritive properties, abounds more or less, and in various proportions, with elements calculated for the construction of the different substances of which the animal frame is composed. It is therefore important to select those kinds of food which contain the most of these particles convertible into substances which render the animal of the highest value. The growth

of animals, the development of their muscles, the texture of their bones and sinews, depend greatly upon the quality of the food with which they are supplied. That which is conducive to the production of fat must be rejected; for, although there is not any kind of food which is convertible into muscle which will not at the same time produce fat, there are many circumstances which render different kinds more abundant with the elements of either substance. This is a wise ordination of nature, for, to a certain extent, fat is essential to the health and the motive powers of the animal, but in excess it is detrimental. On this point circumspection and experience are valuable acquirements to regulate the condition. When a horse is in a manifest state of plethora, it is a certain indication that the food which he receives abounds too copiously with elements conducive to the production of the adipose substance. It will sometimes happen that a horse does not generate a sufficiency of fat; this may arise from indisposition, the bad quality of the food, or its not being given in sufficient quantities.

There are certain laws of nature indispensable to animal life, certain functions which must be supported. Physiologists inform us that the nourishment of the body is derived from the ingredients of the blood, two of the principal of which are serum and fibrine. The serum, when condensed or coagulated, forms albumen, the restorative element of fat and muscular fibre; the fibrine contained in the blood contributes largely to the formation of muscle or flesh. Animal and vegetable fibrine and albumen are precisely similar, and unless they form component parts of the food the animal will waste away. Fat, muscular fibre, and certain other substances, composing the animal frame, are constantly undergoing the process of exhaustion, through the effect of oxygen, which is taken into the system every moment of life by means of the organs of respiration. But no part of that oxygen remains in the body; it is expelled in the form of carbon and hydrogen, by exhalations from the skin, and the ordinary evacuations. The expenditure of carbon and hydrogen is increased by labour or exercise in an equal ratio as the number of exhalations are accelerated by that exercise. By this process the fat and muscular fibre are constantly in a state of exhaustion and renewal, and are supposed to be thoroughly renewed in the course of six or seven months; dependent, however, upon the amount of labour, and the uninterrupted health of the animal. The more expeditiously this renovation of the system takes place, the more perfect

will be the condition of the subject. It is therefore evident that the nutritive matter supplied by the food must exceed the exhaustion which takes place in young animals, to occasion their growth and increase the development of muscle and other tissues, and with adults it must be equivalent with the exhaustion to maintain the animal in a normal state.

It has been ascertained that such vegetable food as affords nourishment to animals abounds most with nitrogen; and that they require the least of those kinds which contain the largest quantities. But here it must be observed there is a limit to the presentation of food abounding too profusely with nutritive properties, which will speedily affect the animal partaking thereof. The blood-vessels will become distended, and other channels overcharged with an excess of their fluid; and upon the slightest appearance of the symptoms which indicate a disordered state of the circulation, unless medicines are presented which are calculated to relieve the system from the accumulation, aided by temporary abstinence, and indeed change of food, the health of the animal is sure to suffer.

Professor Playfair, who has made experiments on the quantity of nutritious matter contained in different kinds of food supplied to animals, found that in one hundred lbs. of oats, eleven lbs. represent the quantity of gluten where-with flesh is formed, and that an equal weight of hay affords eight lbs. of similar substance. Both hay and oats contain about sixty-eight per cent. of unazotised matter identical with fat, of which it must be observed a vast portion passes off from the animal without being deposited. By this calculation it appears that if a horse consumes daily four feeds of oats and ten lbs. of hay, the nutriment which he derives will be equivalent to about one lb. eleven oz. of muscle, and thirteen and a half lbs. of superfluous matter, which, exclusively of water, nearly approximates the exhaustion of the system by perspiration and the various evacuations.

Some very interesting and instructive experiments have been made by Mr. William Goodlet, factor to Lord Blantyre, at Erskine, Renfrewshire, on the feeding properties of turnips grown with different manures; a full account of which appeared in the columns of the *Mark Lane Express*, of January 16th, 1854. They supply proofs of the effects produced by the same description of food cultivated with different manures; and as a similar principle exists with reference to the elements by which nourishment is supplied to the horse, the results of the inquiry may be interesting. It must be in-

variably remembered, that the good qualities of food are derived from the land upon which it is cultivated, and that it will partake of good or bad elements in the same ratio as the land is charged with them. The account states: "A portion of a field on the farm of Beauchamp, in Forfarshire, intended for turnips last year (1850), was selected for its equal quality of soil and exposure upon which to grow the lots to be experimented with. The soil is a good friable loam, and the field, which had been manured for a bean-crop in 1848, was in wheat in 1849, and ploughed in the autumn, with a good furrow for turnips in the following season. Plot No. 1, got twenty tons of well-made farm-yard dung per acre. No. 2, got four cwt. of Peruvian guano per acre. No. 3, got ten tons of like dung, and two cwt. of like guano, per acre. The cattle experimented upon consisted of twenty-one two-years-old, short-horn crosses, and were divided into lots of seven each. Lot 1 was fed with the turnips grown with dung alone; lot 2 with the turnips grown with guano alone; and lot 3 with turnips produced from half dung and half guano. The animals were all fed alike, with equal weights of the turnips, hay, and a small quantity of oil-cake. Periodical investigations were made by weighing them to ascertain their progress. The final results show, that the beasts which were fed upon the turnips grown from dung made the greatest improvement; those which were fed upon the turnips grown from half dung and half guano were next in rotation; and those fed with the turnips raised from guano alone made the least amount of progress. It must be observed, the experiment was conducted for the express purpose of ascertaining which kind of manure imparted to the turnips the greatest amount of nutritious matter, and not to ascertain which would grow the greatest bulk of roots on a given quantity of land; therefore an equal weight was given to each animal daily."

These experiments afford a valuable precedent with reference to the qualities contained in hay resulting from the kind of land upon which it is grown, and the manure which is used to increase the quantity. That which contains the greatest amount of those elements which are convertible into fat is not the kind to be chosen for horses. It is generally the produce of rich alluvial soils, low meadows on the margin of rivers, or of land highly stimulated with luxuriating manures. That such hay is convertible into larger proportions of fat than muscle, may readily be determined by the fact, that horses perspire more profusely when they are supplied with it. Indeed, there is scarcely any other test re-

quired, by which the quality of the hay may be known. The quality of hay will vary greatly in different years, although grown in the same field; this variation is the result of atmospheric influences. Wet seasons are essentially inimical to the production of horse provender; but the drier the nature of the land the better it will be. The great progress made of late years in the practice of draining will eventually ensure an improvement in the qualities of hay, which will also in course of time produce beneficial influences on the condition of the equine classes, more especially with the common descriptions than with thorough-bred stock, as the breeders of the latter generally exercise appropriate circumspection in their choice of that food which is of the best description. The manure with which the land is refreshed cannot fail to have a very considerable effect upon the crop which is produced; and the best herbage is that which grows on dry land, regenerated with compost formed of earth, lime, and salt. The nutritive properties of oats are pretty accurately determined by their weight, at the same time the nature and condition of the land has a similar effect upon them that it has upon hay and other productions.

It is generally known that the embryo offspring partakes of the health or condition of the dam, therefore the food with which the mother is supplied must affect the foal. This is a subject too commonly disregarded by breeders, although it is constantly demonstrated after the foal comes into life. If a mare be supplied with food which produces relaxation, her foal will be in the same state; and constipation is recognized in a similar manner. The propriety of supplying a brood-mare with the best and most suitable kinds of food during pregnancy cannot be too strongly impressed. In the management of young stock every effort should be made, by giving them food which is adapted to the purpose, to bring them to maturity as early as possible: by these means the texture and development of the bones, the sinews, and the muscles is greatly accelerated. The constitution of each animal must be consulted, and it is highly important, if the acme of condition is to be attained by animals when they arrive at an age of maturity, that the growth and gradual development of their frames should be composed of those healthy and invigorating materials, upon which the structure of condition can be raised. To accomplish this, hay, oats, and occasionally beans, must form the principal items of equine dietary, and grass should be provided only in limited supplies during the summer months.

It is to giving growing stock unrestricted quantities of green food that breeders must ascribe a very general cause for their disappointment, and it is by that practice that the kingdom is supplied with such vast numbers of worthless animals. Grass, it may be observed, loses two-thirds of its weight, and a greater proportion of bulk, when converted into hay; but that extraneous matter consists of moisture, possessing no portion of fibrine, consequently it contains none of those elements which increase muscular development. If a horse be supported upon grass alone, he must eat a vast quantity—equal to more than three times the proportion of hay—to derive an equivalent amount of nourishment; being very full of sap and moisture, it is quickly digested; consequently, the animal must be continually devouring it. This distends the stomach and bowels, and impairs the faculty of digestion; for the digestive powers require rest as well as the other organs of the body, if they are to be preserved in a healthy state. The muscular system is debilitated, and fat accumulates; flatulent cholera or gripes is produced, which not unfrequently becomes constitutional. Nothing can be more erroneous than the antiquated impression, that the purgative properties of young grass in the spring are conducive to the healthy state of the equine family. When the *modus operandi* of that description of food is explained, the supposition of its being calculated to produce beneficial effects must vanish. The young green herbage is extensively overcharged with sap and moisture, of a crude, acrimonious nature, and it exists so abundantly, that a considerable portion of it cannot be taken up by the organs destined for the secretion of urine, or by the absorbent vessels of the body; a great quantity of this superfluous fluid, therefore, passes into the intestines, and is thus discharged in a watery state. But the mischief does not terminate immediately on the subsiding of the purgative action; the absorbent vessels, having been overloaded, become distended and relaxed, and some time intervenes before they resume their healthy tone, under the most judicious treatment. This is clearly exemplified by the habitual tendency which many horses exhibit of having swelled legs. When this evil exists, any persons who entertain a doubt as to the primary cause may readily convince themselves, by investigating the course of treatment to which the animal has been subjected. Horses which are reared on wet marshy land are invariably afflicted with this relaxed condition of the absorbent vessels of the legs. Constant supplies of green

succulent food render these defects constitutional, and the most scientific stable management is often frustrated when such animals are required to perform ordinary labour; their legs fail, not from anatomical defects, but from the cause explained, which operates injuriously upon a structure which is naturally perfect.

Superficial judges of horses do not mark the difference between the appearances of a fat and a muscular-formed animal. If the bones are covered, the points filled out, and the general contour looks pleasing to the eye, they conceive that every requisite is accomplished. A more fallacious impression cannot exist. A horse of very moderate pretensions, if in perfect condition, will prove himself infinitely superior in the quality of endurance or capability to perform work, than one of a higher character which is not in condition. If two horses are ridden side by side, at the moderate pace of seven or eight miles in the hour, on a warm day in the summer, one of which has been taken out of a grass field, and the other fed on hay and corn, the difference will be very soon detected. The grass-fed horse will perspire profusely, yet the other will be cool and dry. This propensity to perspire likewise proves that the system of the former is replete with adipose deposit, and fluids destined to produce that substance; an unnecessary encumbrance, and in such quantities opposed to freedom of action.

Under an impression that an abundance of luxuriant grass will increase the flow of milk, it is frequently given to brood mares, but if it has the effect of producing relaxation it is exceedingly prejudicial. A moderate portion of good milk is far preferable to that which is weak and poor. Thoroughbred mares are not unfrequently deficient in their lacteal secretions, more so than those of a common description. It is obviously necessary that either class should be supplied with good and nutritious food for the purpose of augmenting it when insufficient, but the nature of the food requires to be regulated by the constitution of the individual.

A mistaken notion of economy frequently induces persons to turn their horses into the grass fields during the summer months. A few words may serve to dispel that delusion. Twenty-two bushels of oats, allowing one bushel per week, which is sufficient for young stock or horses not in work, from the 15th of May to the 16th of October, may be estimated as the produce of a trifle more than half an acre of land. From ten to twelve hundredweight of hay may be estimated as the produce of another half-acre, although a ton

and a half per acre is not more than an average crop on land in good condition. It will require an acre of grass-land capable of producing a ton and a half of hay to support a horse during the above-named period. When the relative value of a horse which has been kept on hay and corn is compared with that of one which has been grazed, the verdict will be considerably against the latter.

GENERAL MANAGEMENT OF HORSES.

There is not a more important subject than the management of the colt from the earliest period, and the preparing and fitting him for the duties that he has to perform. The mare is usually at heat at some period in the spring, varying from the middle of February to the latter end of May. The age of the foal is reckoned from January; therefore it is a matter of some consequence among racing men, that the mare should foal early; for two or three months' difference in the age of the colt will materially influence the running at two years old. For mares of other classes, the months of March, April, and May, are the most favourable periods. There is, however, a strange difference in the length of the period of pregnancy in the mare, more so than in any other domesticated animal. The cause of this, or the circumstances that influence it, have never been satisfactorily explained. The writer of this sketch had two mares that were impregnated within two days of each other. One of them foaled a fortnight within the eleven months; the other did not drop her foal until four weeks after the expiration of the eleventh month. There was no possibility of a second impregnation.

The mare needs not to be taken from moderate work because she is pregnant. Exercise will be of advantage to her rather than otherwise, and may be continued almost to the period of her expected parturition. She should, however, be carefully watched, that her labour-pains may not come upon her unawares. She will probably require, when half the period of pregnancy is past, a little addition made to her food. Any possible symptoms of abortion should also be watched, for these will now, if ever, occur. They will probably be attributable to being overworked or not worked at all, or to being over-fed or half-starved. It should also be recollected that the mare which has once aborted is subject to a repetition of this accident, and that all the mares in the pasture are subject to the same mishap, from a strange species of sympathy.

A day or two after the foal is dropped, providing the weather is fine, it may be turned with its dam into a sheltered paddock, in which there is a hovel for security from the wind and the rain. Hay, corn, and bran mashes must be allowed, if it is early in the season, or the grass has scarcely begun to shoot. There is nothing so detrimental to the colt as insufficient food. It should be regarded as a fundamental principle in breeding, that if the growth of the colt at any time is checked by starvation, beauty, energy, and stoutness will rarely be displayed in after-years.

In five or six months, according to the growth of the foal, the weaning may take place. The colt should be confined to a stable or other building, until he becomes a little reconciled to the loss of his dam.

Too great a distinction, however, is often made between the colts, according to the labour for which they are destined. The one that is designed for somewhat superior service has a hovel in which he is sheltered, while the other is probably exposed to the biting blast, with no food but what he can gather from the frozen ground, except perhaps a morsel of hay and straw, and that not of the best quality, when the herbage is buried in the snow. There is nothing gained by this system of starvation: the farmer may depend upon it, that if, from false economy, the colt is half-starved and his growth arrested, his value will be materially injured as long as he lives. The author of the work on "The Extent and Obligation of Humanity to Brutes" thus describes this neglected creature:—"The foal that has been left to struggle on as he can, becomes poor and dispirited. He is shrinking under the hedge, cold and shivering, with his head hanging down, and the rheum distilling from his eyes. If he is made to move, he listlessly drags his limbs along, evidently weak, and generally in pain. He is a sad specimen of poverty, misery, and cruelty."

The purpose for which the animal is adapted will determine the age when the process of breaking must commence. Thorough-bred ones are taken in hand in the summer after they have attained their first year. Those which are destined for other employment will not require the attention of the breaker till they are three years old. This is a process on which will materially depend the temper and value of the horse, and the pleasure of the rider. The foal should be handled and haltered, and led about by the servant who has the chief care of him, and whose conduct towards him should always be kind. "The principle," says the author of "The

Horse," "on which the after-usefulness of the animal is founded, his early attachment to and confidence in man, and obedience, resulting principally from these."

A horse is well broken when he has been taught implicit and cheerful obedience to his rider or driver, and dexterity in performance of his work. A dogged, sullen, spiritless submission may be enforced by the cruel and brutal usage to which the breaker so frequently has recourse; but that prompt and eager response to the slightest intimation of the rider's will—that manifest aim to anticipate every wish, which gives to the horse so much of his value, must be founded on habitual confidence and attachment. The education of the horse should be like that of the child. Pleasure should be as much as possible associated with the early lessons; while firmness, or, if need be, coercion, must establish the habit of obedience.

It is surprising how soon, under a system of kind management, the animal which has been accustomed to go where he pleased, and to do as he thought fit, may be taught to yield up his will to another, and to obey with alacrity his master's bidding. If there is a kind-hearted and faithful servant about the premises who will undertake this task, the breeder is fortunate; for, without this, he is often compelled to resign his colt to the tender mercies of a colt-breaker—a man who seldom has any conception of obtaining his object by the moral influence which kindness would give him over the youngster, but who has too frequent recourse to violence, and that of the most outrageous kind, until the colt becomes a dull, dispirited, useful, but desponding and ill-treated slave through life, or, cherishing a deep feeling of wrong and a spirit of revenge, becomes determinedly vicious and dangerous.

LEAPING.

During the process of breaking, every young horse, with any pretensions to making a hunter, should be taught to leap. This is most readily accomplished by means of a well-constructed leaping-bar. It should be arranged with guide-rails set six feet apart, and from five feet six inches to six feet high, smooth at the top, so that the lunging-rein may pass free. They should be about twenty feet in length, sloping gradually to the two extremes, so as to form a kind of lane. There should be two leaping-bars, about seven feet apart, which may be made to rise about five feet, between grooves in the posts, so that they cannot be knocked down.

The young pupil is brought out with a cavesson and a lunging-rein. The initiative should commence with the first bar on the ground, and the second not more than a foot high: they can both be raised as the youngster gains confidence and proficiency; and a few oats supplied from the pocket will operate as an encouragement for good performance. An assistant is necessary with a whip; but that implement must be used with great caution. By this mode young horses will soon become very clever, and it will save them and their riders many falls. Although falls are to be deprecated, every fence at which a young horse is practised should be sufficiently strong, so as not to give way. Other places may be selected in the course of time; but, above all, the lesson should be short, and the young horse should be taken away when he has accomplished what is required from him cleverly.

Having weathered the second winter, the education of the farmer's horse may be pursued. He may be bitted. How much depends upon the application of this little coercive instrument, the bit! The first bit should always be a large one. It may be contrived so as not to hurt the mouth in the slightest degree. The colt may be permitted to champ and play with it an hour or two at a time, for a few successive days. Then portions of the harness may be put upon him; and, by-and-by, the winkers; and, a little after that, he may go as centre horse in a team of three. If he has been kindly and well managed, it is a great chance if he does not go quietly enough, and in a day or two begin to pull with the rest. Not many days need to pass before the most difficult of all the manoeuvres of the cart, the backing, is tried; and it will succeed oftener than they who see the horrible cruelties that are inflicted on the mouth of the horse would think to be possible. The author of this sketch is not advocating the humouring and spoiling of the horse, but he is showing how many lessons may be inculcated by patience and kindness, which brute force would fail to accomplish.

The breaking being accomplished, the management of the horse will vary according to his breed and destination; but the good usage of our domesticated slaves should be regarded as a principle that ought never to be violated. The agricultural horse is seldom over-worked, and on large farms is generally well fed; perhaps, in many cases, too much above his work. This, however, is an error on the right side.

There are many acts of cruelty committed in the farmer's

stable, resulting more from carelessness and thoughtlessness than absolute brutality. In almost every stable there is some horse more powerful or greedy than his neighbours, who robs them of the greater part of their share of the food. The victims are usually either old or young horses with imperfect mouths. The farmer's stable should be oftener divided into separate stalls than it usually is. The simple bails afford a very insufficient security against the thefts of a greedy neighbour. The farmer would certainly reap the advantage of this altered plan in the increased health of some of his team, and their increased capability of labour.

Connected with this is another circumstance, with regard to which the farmer should be always on the alert—the stupid and cruel dislike which the carter frequently entertains towards some particular horse in his team. This is a crime that should never be forgiven; nor should the secret administration of certain favourite and powerful, and too frequently, injurious, drugs. This practice is often carried to an extent that is scarcely credible. The person who practises this imposition, whatever be his motives—often connected with the wished-for good appearance of his team—should be immediately dismissed; and it should be a golden rule, that no drug should be kept or used in a stable without the master's knowledge and permission.

A simple but invaluable appendage to the cart-stable is the *nose-bag*. In order that the lungs of the horse may have their full play, and especially that the speed of the horse may not be impeded, an exceedingly small stomach was given to him. It is, consequently, soon emptied of food, and hunger, and languor, and indisposition, and inability to work, speedily succeed. At length food is set before him; he falls ravenously upon it; he swallows it faster than his contracted stomach can digest it; the stomach becomes overloaded; he cannot, from the peculiar construction of that organ, get rid of the load by vomiting, and the stomach, or some of the vessels of the brain, become ruptured, and the animal dies. The farmer attributes this to an unknown or accidental cause, and dreams not that it is, in the great majority of cases, to be traced to voracious feeding after hard work and long fasting. The nose-bag is a simple but a kind contrivance, and an effectual preventive. No cart-horse on a journey of more than four or five hours should be suffered to leave the farmer's yard without it.

A very slight inspection of the animal will always enable the owner to determine whether he is too well fed or not suf-

ficiently fed. The size of the horse, and the nature of the work, and the season of the year, will make considerable difference in the quantity and the quality of the food. The following accounts will sufficiently elucidate the general custom:—"Mr. Harper, of Bank Hall, Lancashire, ploughs seven acres per week, the year through, on strong land, with a team of three horses, and allows to each weekly two bushels of oats, with hay, during the winter six months, and, during the remainder of the year, one bushel of oats per week. Mr. Ellman, of Glynde, in Sussex, allows two bushels of oats, with pease-haulm or straw, with but very little hay, during the winter months. He gives one bushel of oats with green food during the summer."* There is very little difference in the management of these two gentlemen, and that probably arising from circumstances peculiar to their respective farms. The grand principles of feeding, with reference to agricultural horses, are to keep the animal rather above his work, to give him good and wholesome food, and, by the use of the nose-bag or other means, never to let him work longer than the time already mentioned without being baited.

The horse of quick work should be allowed as much as he will eat, care being taken that no more is put into the manger than he will readily dispose of; and that the corn be consumed before the hay is given; if the former be not eaten up with an appetite, it must be removed before the stable is shut up. The quantity actually eaten will depend on the degree of work and the natural appetite of the horse; but it may be averaged at about sixty-six pounds of chaff, seventeen pounds and a half of beans, and seventy-seven pounds of oats per week.

The *watering* of the horse is a very important but disregarded portion of his general management. The kind of water has not been sufficiently considered. The difference between what is termed *hard* and *soft* water is a circumstance of general observation. The former contains certain saline principles which decompose some bodies, as appears in the curdling of soap, and prevent the decomposition of others, as in the making of tea, the boiling of vegetables, and the process of brewing. It is natural to suppose that these different kinds of water would produce somewhat different effects on the animal frame; and such is the fact. Hard water, freshly drawn from the well, will frequently roughen the coat of the horse unaccustomed to it, or cause griping

* Agricultural Survey of Sussex, pp. 378 and 311.

pains, or materially lessen the animal's power of exertion. The racing and the hunting groom are perfectly aware of this; and so is the horse, for he will refuse the purest water from the well, if he can obtain access to the running stream, or even the turbid pool. Where there is the power of choice, the softer water should undoubtedly be preferred.

The temperature of the water is of far more consequence than its hardness. It will rarely harm, if taken from the pond or the running stream, but its coldness when recently drawn from the well has often been injurious; it has produced colic, spasm, and even death.

There is often considerable prejudice against the horse being fairly supplied with water. It is supposed to chill him, to injure his wind, or to incapacitate him for hard work. It certainly would do so if, immediately after drinking his fill, he were galloped hard, but not if he were suffered to quench his thirst more frequently when at rest in the stable. The horse that has free access to water will not drink so much in the course of a day as another, who, in order to cool his parched mouth, swallows as fast as he can, and knows not when to stop.

A horse may with perfect safety be far more liberally supplied with water than he generally is. An hour before his work commences, he should be permitted to drink a couple of quarts. A greater quantity might probably be objected to. He will perform his task far more pleasantly and effectively than with a parched mouth and tormenting thirst. The prejudice both of the hunting and the training groom on this point is cruel, as well as injurious. The task or the journey being accomplished, and the horse having had his head and neck dressed, his legs and feet washed, before his body is cleaned he should have his water. When dressed, his corn may be offered to him, which he will readily take; but water should never be given immediately before or after the corn.

CONDITION.

It would be incompatible with the limits of this little work to enter into the voluminous details of the racing stables; but some leading remarks on the condition of hunters and all other kinds of working horses are requisite. The treatment of hunters has been vastly improved since it was discovered that turning them out to grass during the summer months was highly prejudicial to their future performances.

When the hunting season has terminated, rest is acceptable to most horses, and that cannot be conceded to them more conveniently than in a loose box, with a yard into which they may be enlarged daily. The state of each animal will determine the necessity for physic, or any applications in the way of blisters or counteractants to the legs. A moderate allowance of corn is indispensable, with a sufficiency of hay, but not so much of either as to occasion plethora. Water should always be at hand. Enough has been introduced in these pages on the ill effects of green succulent herbage: those who desire to have their hunters in first-rate condition, will reject it, except in very small quantities for certain purposes. Towards the latter end of August, one or two doses of mild physic will render the subject in a proper state for gradually increased exercise; and very few which have been treated in this manner will require the abuse of sweating—imperative with those which have been fattened with grass. Thus the legs and constitutions are exonerated from much injury and inconvenience. Two or three hours' walking, and occasional trotting exercise daily, with a steady gallop from two to three miles twice or thrice a week, as the season approaches, will complete the purpose. Clipping or singeing has now become so general, that it is scarcely necessary to make a comment upon the advantages they afford; and to a certain extent, dependent upon the length of coat, one or other of the operations is indispensable. It enables the servants to dress the horses with so much more expedition where they return home after the fatigues of the day. When the country is very deep and wet, and the horse's coat is covered with clay, or other adhesive soil, the plan of washing the animal all over with warm water immediately on his return to his stables is recommended. It is a great object to dress a tired hunter as expeditiously as possible, and two men should always be employed for that purpose. The ordeal which the hunter undergoes preparatory to his work is often inconsistent. On the previous day the hay should be moderately apportioned, regulated by the constitution of the animal. On the morning of hunting he should be allowed from six to eight go-downs of water, according to the distance he may have to travel to the place of meeting, and two feeds of corn is as much as he will require. On his return to his stable, he should have, immediately that the bridle is removed from his head, half a bucket of gruel, prepared with linseed, oatmeal, or wheat flour, which requires to be boiled, and a plentiful allowance of bran mash.

The preparatory work and treatment of hacks and carriage-horses scarcely varies, if the owner desires to have them in first-rate order. The most extraordinary notions prevail concerning the hardihood of horses, and the best means of securing that valuable faculty. It is alleged that those which are bred in the mountainous districts of Wales and Scotland are highly gifted with this property. It is true they bear exposure to great inclemency of weather, and live on scanty food. Thus, reasoning by analogy, persons fancy that by demi-starvation and exposure to inclemency a hardy animal may be reared. There cannot be a more palpable error. The mountaineers are not able to work in their native state; they must be well supplied with good nutriment when their active services are required, and that, with dry shelter, in a well-ventilated building, is the keystone to physical power and endurance.

MANAGEMENT OF FARM HORSES.

Agriculturists find it to their advantage to keep their horses in the stables and yards throughout the summer, in preference to turning them out into the pasture-fields. The manure which they make more than compensates for the expense of bringing their food to them. In the winter, an allowance of Swedes saves a vast quantity of hay and corn, and keeps the animals cool: they are preferable to carrots. Bran is useful, but it should never be given to them, or to any other horses, without being previously scalded. Carters have a most reprehensible practice of driving their horses into ponds to drink, while attached to each other by their gearing or harness; many have been drowned in consequence. This class of men have also a most abominable propensity for giving drugs of various kinds: a stern injunction should be laid against it. The plan of cutting their hay into chaff is to be recommended, as it saves waste: where this is not done, the quantity of food destroyed, but not consumed, in cart stables is enormous.

CHAPTER VIII.

DISEASES OF HORSES.

It may be readily supposed that the animal doomed to the manner of living which every variety of the horse experiences, will be peculiarly exposed to numerous forms of suffering; every natural evil will be aggravated, and many new and formidable sources of pain and death will be superadded.

Interest and humanity require that we should become acquainted with the nature, and causes, and remedy of the diseases of the horse. Only a slight sketch of them can be given here, but sufficient perhaps to enable the owner to avoid their causes, to recognize their existence, and to induce him, without dangerous delay, to apply to the proper quarter for their removal or alleviation.

The principal diseases of the horse are connected with the circulatory system. From the state of habitual excitement in which the animal is kept, in order to enable him to execute his task, the heart and the blood-vessels will often act too impetuously; the vital fluid will be hurried along too rapidly, either through the frame generally or some particular part of it, and there will be *congestion*, accumulation of blood in that part, or *inflammation*, either local or general, disturbing the functions of some organ or of the whole frame.

Congestion.—Take a young horse on his first entrance into the stables; feed him somewhat highly, and what is the consequence? He has swellings of the legs, or inflammation of the joints, or perhaps of the lungs. Take a horse that has lived somewhat above his work, and gallop him to the top of his speed: his nervous system becomes highly excited—the heart beats with fearful rapidity—the blood is pumped into the lungs faster than they can discharge it—the pulmonary vessels become gorged, fatigued, and utterly powerless—the blood, arrested in its course, becomes viscid, and death speedily ensues. We have but one chance of saving our patient—the instantaneous and copious abstraction of blood; and only one means of preventing the recurrence of this dangerous state; namely, not suffering too great an accumulation of the sanguineous fluid by over-feeding, and by regular and systematic exercise, which will inure the circulatory vessels to

prompt and efficient action when they are suddenly called upon to exert themselves. This is an extreme case, but the cause and the remedy are sufficiently plain.

Again, the brain has functions of the most important nature to discharge, and more blood flows through it than through any other portion of the frame of equal bulk. In order to prevent this organ from being oppressed by a too great determination of blood to it, the vessels, although numerous, are small, and pursue a very circuitous and winding course. If a horse highly fed, and full of blood, is suddenly and sharply exercised, the course of the blood is accelerated in every direction, and to the brain among other parts. The vessels that ramify on its surface, or penetrate its substance, are completely distended and gorged with it; perhaps they are ruptured, and the effused blood presses upon the brain; it presses upon the origins of the nerves, on which sensation and motion depend, and the animal suddenly drops powerless. A prompt and copious abstraction of blood, or, in other words, a diminution of this pressure, can alone save the patient. Here is the nature, the cause, and the treatment of *apoplexy*.

Sometimes this disease assumes a different form. The horse has not been performing more than his ordinary work, or perhaps he may not have been out of the stable. He is found with his head drooping and his vision impaired. He is staggering about. He falls, and lies half-unconscious, or he struggles violently and dangerously. There is the same congestion of blood in the head, the same pressure on the nervous organs, but produced by a different cause. He has been accustomed habitually to overload his stomach, or he was, on the previous day, kept too long without his food, and then he fell ravenously upon it, and ate until his stomach was completely distended and unable to propel forward its accumulated contents. Thus distended, its blood-vessels are compressed, and the circulation through them is impeded, or altogether suspended. The blood is still forced on by the heart, and driven in accumulated quantity to other organs, and to the brain among the rest; and there congestion takes place, as just described, and the animal becomes sleepy, unconscious, and, if he is not speedily relieved, he dies. This, too, is apoplexy: the horseman calls it *stomach staggers*. Its cause is improper feeding. The division of the hours of labour, and the introduction of the *nose-bag*, have much diminished the frequency of its occurrence. The remedies are plain: bleeding, physicking, and the removal of the

contents of the stomach by means of a pump contrived for that purpose.

Congestions of other kinds occasionally present themselves. It is no uncommon thing for the blood to loiter in the complicated vessels of the *liver*, until the covering of that viscus has burst, and an accumulation of coagulated black blood has presented itself. This congestion constitutes the *swelled legs* to which so many horses are subject when they stand too long idle in the stable; and it is a source of many of the accumulations of serous fluid in various parts of the body, and particularly in the chest, the abdomen, and the brain.

Inflammation is opposed to *congestion*, as consisting in an active state of the capillary arterial vessels; the blood rushes through them with far greater rapidity than in health, from the excited state of the nervous system by which they are supplied.

Inflammation is either *local* or *diffused*. It may be confined to one organ, or to a particular portion of that organ; it may involve many neighbouring ones, or it may be spread over the whole frame. In the latter case it assumes the name of *fever*. Fever is general or constitutional inflammation, and it is said to be *sympathetic* or *symptomatic* when it can be traced to some local affection or cause, and *idiopathic* when we cannot so trace it. The truth probably is, that every fever has its local cause; but we have not a sufficient knowledge of the animal economy to discover that cause.

Inflammation may be considered with reference to the membranes which it attacks.

The *mucous membranes* line all the cavities that communicate with the external surface of the body. There is frequent inflammation of the membrane of the mouth. *Blain*, or *Glysynthrax*, is a vesicular enlargement which runs along the side of the tongue. Its cause is unknown. It should be lanced freely and deeply, and some aperient medicine administered. *Barbs*, or *paps*, are smaller enlargements, found more in the neighbourhood of the bridle of the tongue. They should never be touched with any instrument: a little cooling medicine will generally remove them. *Lampas* is inflammation of the palate, or enlargement of the bars of the palate. The roof of the mouth may be slightly lanced, or a little aperient medicine administered; but the sensibility of the mouth should never be destroyed by the application of the heated iron. *Canker* and *wounds in the mouth*, from various causes, will be best remedied by diluted tincture of myrrh, or a weak solution of alum.

Foreign bodies in the gullet may be generally removed by means of the probang used in the hove of cattle; or the œsophagus may be opened, and the obstructing body taken out.

It is on the mucous membranes that *poisons* principally exert their influence. The *yew* is the most frequent vegetable poison. The horse may be saved by timely recourse to equal parts of vinegar and water ejected into the stomach, after the poison has been as much as possible removed by means of the stomach-pump. For arsenic or corrosive sublimate there is rarely any antidote.

Spasmodic colic is too frequently produced by exposure to cold, the drinking of cold water, or the use of too much green meat. The horse should be walked about, strong friction used to the belly, and spirit of turpentine given in doses of two ounces, with an ounce each of laudanum and spirit of nitrous æther, in warm water, ale, or gruel. If the spasm is not soon relieved, the animal should be bled, and injections of warm water with a solution of aloes thrown up, if constipation exists. This spasmodic action of the bowels, when long continued, is liable to produce *introsusception*, or *entanglement*, of them; and the case is then hopeless.

Superpurgation often follows the administration of a too strong or improper dose of physic. The torture which it produces will be evident by the agonized expression of the countenance, and the frequent looking at the flanks. Plenty of thin starch or arrowroot should be given both by the mouth and by injection; and, twelve hours having passed without relief being experienced, chalk, catechu, and opium should be added to the gruel.

Worms in the intestines are not often productive of much mischief, except they exist in very great quantities. Small doses of emetic tartar or calomel, with a little ginger, may be given to the horse half an hour before his first meal, in order to expel the round white worm; it must be worked off with linseed-oil or aloes, and injections of linseed-oil or aloes will usually remove the ascarides, or needle-worms.

The *respiratory passages* are all lined by the mucous membrane. *Catarrh*, or cold, inflammation of the upper air-passages, should never be long neglected. A few mashies or a little medicine will usually remove it. If it is neglected, and, occasionally, in defiance of all treatment, it will degenerate into other diseases. The larynx may become the principal seat of inflammation. *Laryngitis* will be shown by extreme difficulty of breathing, accompanied by a strange

roaring noise, and an evident enlargement and great tenderness of the larynx when felt externally. The windpipe must be opened in such case, and the best advice will be necessary. Sometimes the subdivisions of the trachea, before or when it first enters the lungs, will be the part affected, and we have *bronchitis*. This is characterized by a quick and hard breathing, and a peculiar wheezing sound, with the coughing up of mucus. Here, too, decisive measures must be adopted, and a skilful practitioner employed. His assistance is equally necessary in *distemper*, *influenza*, and *epidemic catarrh*, names indicating varieties of the same disease, and the product of atmospheric influence; differing to a certain degree in every season, but in all characterized by intense inflammation of the mucous surfaces, and rapid and utter prostration of strength, and in all demanding the abatement of that inflammation, and yet little expenditure of vital power.

"Cough may degenerate into *inflammation of the lungs*; or this fearful malady may be developed without a single premonitory symptom, and prove fatal in twenty-four or even in twelve hours. It is mostly characterized by deathly coldness of the extremities, expansion of the nostril, redness of its lining membrane, singularly anxious countenance, constant gazing at the flank, and an unwillingness to move. A successful treatment of such a case can be founded only on the most prompt and fearless and decisive measures: the lancet should be freely used. Counter-irritants should follow as soon as the violence of the disease is in the slightest degree abated; sedatives must succeed to them; and fortunate will he be who often saves his patient after all the decisive symptoms of pneumonia are once developed.

Among the consequences of these severe affections of the lungs, are *chronic cough*, not always much diminishing the usefulness of the horse, but strangely aggravated at times by any fresh accession of catarrh, and too often degenerating into *thick wind*, which always materially interferes with the speed of the horse, and in a great proportion of cases terminates in broken wind. It is rare, indeed, that either of these diseases admits of cure. That obstruction in some part of the respiratory canal, which varies in almost every horse, and produces the peculiar sound termed *roaring*, is also rarely removed. Roaring is a malady of such frequent occurrence and such disastrous consequences, that it will be found more discursively treated upon in the concluding pages.

Glanders, the most destructive of all the diseases to which

the horse is exposed, is *the consequence of breathing the atmosphere of foul and vitiated stables*. It is the winding up of almost every other disease, and in every stage it is most contagious. Its most prominent symptoms are a small but constant discharge of sticky matter from the nose; an enlargement and induration of the glands beneath and within the lower jaw, on one or both sides, and, before the termination of the disease, chancrous inflammation of the nostril on the same side with the enlarged gland. Its contagiousness should never be forgotten, for, if a glandered horse is once introduced into a stable, almost every inhabitant of that stable will sooner or later become infected and die.

The urinary and genital organs are also lined by mucous membranes. The horse is subject to *inflammation of the kidneys*, from eating musty oats or mow-burnt hay, from exposure to cold, injuries of the loins, and the imprudent use of diuretics. Bleeding, physic, and counter-irritants over the regions of the loins should be had recourse to. *Diabetes*, or *profuse staling*, is difficult to treat. The inflammation that may exist should first be subdued, and then opium, catechu, and the *Uva ursi* administered. *Inflammation of the bladder* will be best alleviated by mucilaginous drinks of almost any kind, linseed-gruel taking precedence of all others. *Inflammation of the neck of the bladder*, evinced by the frequent and painful discharge of small quantities of urine, will yield only to the abstraction of blood and the exhibition of opium. A catheter may be easily passed into the bladder of the mare, and urine evacuated; but it will require a skilful veterinary surgeon to effect this in the horse. A *stone in the bladder* is readily detected by the practitioner, and may be extracted with comparative ease. The sheath of the penis is often diseased, from the presence of corrosive mucous matter. This may easily be removed with warm soap and water.

To the mucous membranes belong the conjunctival tunic of the eye; and the diseases of the eye generally may be here considered. A *scabby itchiness* on the edge of the eyelid may be cured by a diluted nitrated ointment of mercury. *Warts* should be cut off with the scissors, and the roots touched with lunar caustic. *Inflammation of the haw* should be abated by the employment of cooling lotions, but that useful defence of the eye should never, if possible, be removed. Common *ophthalmia* will yield as readily to cooling applications as inflammation of the same organ in any other animal; but there is another species of inflammation, commencing in the same way as the first, and for a while apparently yielding

to treatment, but which changes from eye to eye, and returns again and again, until blindness is produced in one or both organs of vision. The most frequent cause is hereditary predisposition. The reader cannot be too often reminded that the qualities of the 'sire, good or bad, descend, and scarcely changed, to his offspring. How *moon-blindness* was first produced no one knows; but its continuance in our stables is to be traced to this cause principally, or almost alone; and it pursues its course until cataract is produced, for which there is no remedy. *Gutta serena* (palsy of the optic nerve) is sometimes observed, and many have been deceived, for the eye retains its perfect transparency. Here also medical treatment is of no avail.

The serous membranes are of great importance. The brain and spinal marrow, with the origins of the nerves, are surrounded by them; so are the heart, the lungs, the intestinal canal, and the organs whose office it is to prepare the generative fluid.

Inflammation of the Brain.—Mad staggers fall under this division. It is inflammation of the meninges, or envelopes of the brain, produced by over-exertion, or by any of the causes of general fever, and it is characterized by the wildest delirium. Nothing but the most profuse blood-letting, active purgation, and blistering the head, will afford the slightest hope of success. *Tetanus*, or *Locked Jaw*, is a constant spasm of all the voluntary muscles, and particularly those of the neck, the spine, and the head, arising from the injury of some nervous fibril—that injury spreading to the origin of the nerve—the brain becoming affected, and universal and unbroken spasmodic action being the result. Bleeding, physicking, blistering the course of the spine, and the administration of opium in enormous doses, will alone give any chance of cure. *Epilepsy* is not a frequent disease in the horse, but it seldom admits of cure. It is also very apt to return at the most distant and uncertain intervals. *Palsy* is the suspension of nervous power. It is usually confined to the hinder limbs, and sometimes to one limb only. Bleeding, physicking, antimonial medicines, and blistering of the spine, are most likely to produce a cure; but they too often utterly fail of success. *Rabies*, or madness, is evidently a disease of the nervous system, and, once being developed, is altogether without remedy. The utter destruction of the bitten part with the lunar caustic, soon after the infliction of the wound, will, however, in a great majority of cases, prevent that development.

Pleurisy, or inflammation of the serous covering of the lungs and the lining of the cavity of the chest, is generally connected with inflammation of the substance of the lungs; but it occasionally exists independent of any state of those organs. The pulse is in this case hard and full, instead of being oppressed; the extremities are not so intensely cold as in pneumonia; the membrane of the nose is little reddened, and the sides are tender. It is of importance to distinguish accurately between the two, because in pleurisy more active purgation may be pursued, and the effect of counter-irritants will be greater, from their proximity to the seat of disease. Copious bleedings and sedatives here also should be had recourse to. It is in connection with pleurisy that a serous fluid is effused in the chest, the existence and the extent of which may be ascertained by the practised ear, and which in many cases may be safely evacuated.

The heart is surrounded by a serous membrane,—the pericardium, that secretes a fluid, the interposition of which prevents any injurious friction or concussion in the constant action of this organ. If this fluid increases to a great degree, it constitutes *dropsy of the heart*, and the action of the heart may be impeded or destroyed. In an early stage it is difficult to detect, and in every stage difficult to cure.

The heart itself is often diseased; it sympathizes with the inflammatory affection of every organ, and therefore is itself occasionally inflamed. *Carditis*, or *inflammation of the heart*, is characterized by the strength of its pulsations, the tremor of which can be seen, and the sound can be heard at a distance of several yards. Speedy and copious blood-letting will afford the only hope of cure in such a case.

The outer coat of the stomach and intestines is composed of a serous membrane,—the peritoneum, which adds strength and firmness to their textures, attaches and supports and confines them in their respective places, and secretes a fluid that prevents all injurious friction between them. This coat is exceedingly subject to inflammation, which is somewhat gradual in its approach. The pulse is quickened, but small; the legs cold; the belly tender; there is constant pain, and every motion increases it; there is also rapid and great prostration of strength. These symptoms will sufficiently characterize *peritoneal inflammation*. Bleeding, aperient injections, and extensive counter-irritation, will afford the only hope of cure.

The time for *castration* varies according to the breed and destiny of the horse. On the farmer's colt it may be effected when the animal is not more than four or five months old,

and it is comparatively seldom that a fatal case then occurs. For other horses, much depends on their growth, and particularly on the development of their fore-quarters. An improvement has been effected in the old mode of castrating, by opening the scrotum, and the division of the cord by the knife, instead of the heated iron.

Synovial or *joint membranes* are interposed between the divisions of the bones, and frequently between the tendons, in order to secrete a certain fluid that shall facilitate motion and obviate friction. Occasionally the membrane is lacerated, and the synovia escapes. This is termed *opened joint*, and violent inflammation rapidly ensues. The duty of the practitioner is to close this opening as quickly as possible. Superacetate of lead one part, and water four parts, may be applied or injected into the cavity, frequently with success. A great deal of inflammation and engorgement are produced around the opening, partially, if not altogether, closing it, or at least enabling the coagulated synovia to occupy and obliterate it. Perhaps, in order to secure the desired result, the whole of the joint should be blistered. After this a bandage should be firmly applied, and kept on as long as it is wanted. If there is any secondary eruption of the synovia, the cautery must be had recourse to.

Spavin is an enlargement of the inner side of the hock. The splint-bones support the inferior layer of those of the hock, and as they sustain a very unequal degree of concussion and weight, the cartilaginous substance which unites them to the shank-bone takes on inflammation. It becomes bony instead of cartilaginous; and the disposition to this change being set up in the part, bony matter continues to be deposited, until a very considerable enlargement takes place, known by the name of *spavin*, and there is considerable lameness in the hock-joint. The bony tumour is blistered, and probably fired, but there is no diminution of the lameness until the parts have adapted themselves, after a considerable process of time, to the altered duty required of them, and then the lameness materially diminishes, and the horse becomes, to a very considerable extent, useful. *Curb* is an enlargement of the back of the hock, three or four inches below its point. It is a strain of the ligament which there binds the tendons down in their place. The patient should be subjected to almost absolute rest; a blister should be applied over the back of the tumour, and occasionally firing will be requisite to complete the cure. Near the fetlock, and where the tendons are exposed to injury from pressure or

friction, little bags or sacs are placed, from which a lubricating mucous fluid constantly escapes. In the violent tasks which the horse occasionally has to perform, these become bruised, inflamed, enlarged, and hardened, and are termed *windgalls*. They blemish the horse, but are no cause of lameness after the inflammation has subsided, unless they become very much enlarged. The cautery will then be the best cure. Immediately above the hock, enlargements of a similar nature are sometimes found, and as they project both inwardly and outwardly, they are termed *thorough-pins*. They are seldom a cause of lameness; but they indicate great, and perhaps injurious, exertion of the joint. On the inside of the hock a tumour of this kind, but of a more serious nature, is found. It is one of these enlarged mucous bags, but very deeply seated; and the subcutaneous vein of the hock passing over it, the course of the blood through the vein is thus in some measure arrested, and a portion of the vessel becomes distended. This is a serious evil, since, from the deep-seatedness of the mucous bag, it is almost impossible to act effectually upon it. It is termed *bog* or *blood spavin*.

The cellular tissue which fills the interstices of the various organs, or enters into their texture, is the seat of many diseases. From the badness of the harness, or the brutality of the attendant, the poll of the horse becomes contused. Inflammation is set up,—considerable swelling ensues; an ulcerative process soon commences, and chasms and sinuses of the most frightful extent begin to be formed. The withers also are occasionally bruised, and the same process takes place there, and sinuses penetrate deep beneath the shoulder, and the bones of the withers are frequently exposed. These abscesses are termed *poll evil* and *fistulous withers*, and in the treatment of them the horse is often tortured to a dreadful extent. A better mode of management has, however, been introduced: setons are passed through the most dependent parts; no collection of sanious fluid is permitted to exist, and milder stimulants are applied to the surface of the ulcer.

An abscess of a peculiar character is found between the branches of the lower jaw in young horses. It is preceded by some degree of fever. It is usually slow in its progress, but at length it attains a considerable size, including the whole of the cellular tissue in that neighbourhood. There is one uniform mass of tumefaction. This is *strangles*. It seems to be an effort of nature to get rid of something that oppresses the constitution, and the treatment of it is now

simple and effectual. It is encouraged by fomentations and blisters. It is punctured as soon as the fluctuation of a fluid within it can be fairly detected; the pus speedily escapes, and there is an end of the matter.

Farcy.—While the arterial capillaries are engaged in building up the frame, the absorbents are employed in removing that which is not only useless, but would be poisonous and destructive. They take up the matter of glanders and of every ulcerating surface, and they are occasionally irritated, inflamed, and ulcerated, from the acrimonious nature of the poison which they carry; the absorbents are furnished with numerous valves; the fluid is for a while arrested by them, and there the inflammation is greatest, and ulceration takes place. This is the history of the farcy-cords and buds. Farcy is a highly contagious disease, whether or not it be connected with glanders. It, however, occasionally admits of cure, from the application of the cautery to the buds, and the administration of the corrosive sublimate or the sulphate of iron internally.

The skin of the horse is subject to various diseases. Large pimples or lumps suddenly appear on it, and, after remaining a few days, the cuticle peels off, and a circular scaly spot is left. This is called *surfeit*. The cause is obscure, but principally referable to indigestion. A slight bleeding will always be serviceable. Physic rarely does good, but alteratives composed of nitre, black antimony, and sulphur, will be very beneficial. *Mange* is a disease of a different character: it is the curse of the stable into which it enters, for it will almost certainly affect every horse. Thorough dressings with Barbadoes tar and linseed-oil, in the proportion of one of the former to three of the latter, will be the most effectual external application, while alteratives and physic should be given internally. *Hide-bound* is a very appropriate term for the peculiar sticking of the hide to the ribs when a horse is out of condition. The subcutaneous adipose matter is all absorbed. The alterative above recommended will be very useful here.

The legs, and the hind ones more than the fore ones, are subject to frequent, and great, and obstinate swellings, attended with great pain and considerable fever. It is acute inflammation of the cellular substance of the legs. Physic and diuretics, and tonics if there is the slightest appearance of debility, are the proper means of cure. Friction and bandages will also be useful occasionally. There are two causes, diametrically opposed to each other, which occasion the legs

to swell : an inspissated or plethoric condition of the blood ; the other, debility of the system. The remedy must depend on the cause : in the first case, moderate doses of physic, combined with diuretics, according to a formula given at the conclusion ; in the other case, tonics, with good keep, are necessary.

Grease is an undue secretion of the fluid which was designed to lubricate the skin of the heels ; and that secretion is also altered in quality. The hind legs begin to swell—a fluid exudes from the heels—the hairs of the heels become erect like so many bristles, and the skin of the heel is hot and greasy. Soon afterwards cracks appear across the heel : they discharge a thick and offensive matter, and then deepen. They spread up the leg, and so does the tumefaction of the part. In process of time the skin, inflamed and ulcerated, undergoes an alteration of structure ; prominences or granulations appear on it, assuming the appearance of a collection of grapes, or the skin of a pine-apple. They increase, and a fetid discharge appears from the crevices between them.

The cause is generally neglect of the horse. He is suffered to stand in the stable with his heels cold and wet, which necessarily disposes them to inflammation and disease.

In the first stage of grease, bran, or turnip, or carrot poultices will be serviceable, with moderate physic. Then astringents must be employed ; and the best are alum or sulphate of copper in powder, mixed with several times the quantity of bole Armenian, and sprinkled on the sores. These should be alternated every three or four days. The grapy heels are a disgrace to the stable in which they are found, and admit not of radical cure.

Splints are bony enlargements, generally on the inside of the leg, arising from undue pressure on the inner splint-bone ; and this is either caused by the natural conformation of the leg, or violent blows on it. These excrescences will often gradually disappear, or will yield to a simple operation, or to the application of the hydriodate of potash or blister ointments. *Sprains*, if neglected, occasionally become very serious evils. Rest, warm fomentations, poultices, or, in bad cases, blistering, are the usual remedies. *Windgalls*, if they are of considerable size, or accompanied by much inflammation or lameness, will find in a blister the most effectual remedy. *Sprains of the fetlock* demand prompt and severe blistering : nothing short of this will produce a permanent cure. *Sprains of the pastern and coffin-joints* demand still more prompt and decisive treatment. If neg-

lected, or inefficiently managed, the neighbouring ligaments will be involved, more extensive inflammation will be set up, and bony matter, under the name of *ring-bone*, will spread over the pasterns and cartilages of the foot. Firing alone will, in the majority of cases, be efficient here.

Inflammation of the foot, or acute founder.—In speaking of the structure of the foot, the laminae, or fleshy plates on the front and sides of the coffin-bone, were described. From over-exertion, or undue exposure to cold or wet, or sudden change from cold to heat, inflammation of these laminae is apt to occur; and a dreadfully painful disease it is. It is easily detected by the heat of the feet, and the torture which is produced by the slightest touch of the hammer. The shoe must be removed, the sole well pared out, plentiful bleeding from the toe had recourse to, the foot well poulticed, and cooling medicines resorted to. The bleeding should be repeated, if manifest benefit is not procured, and cloths dipped in dissolved nitre, which are colder than the common poultice, should be substituted. After this, a poultice around the foot and pastern should succeed. Little food should be given, and that must consist of mashes and a cooling diet.

Pumiced Feet.—This is one of the consequences of inflamed feet. The sole of the foot becomes flattened, or even convex, by the pressure of the weight above. There is no cure here, and the only palliation of the evil is obtained from the application of a shoe so bevelled off from the crust that it shall not press upon or touch the sole. This, however, is only a temporary palliation, for the sole will continue to project, and the horse will be useless.

Contracted Feet.—By this is meant an increase in the length of the foot, and a gradual narrowing as the heels are approached; and, as the necessary consequence of this, a diminution of the width of the foot, and a concavity of the sole. In point of fact, the whole of the foot, including the coffin-bone, becomes narrowed, and consequently elongated. This change of form is accompanied by considerable pain; the action of the horse is altered; there is a shortened tread, and a hesitating way of putting the foot to the ground.

The frog and heel would expand when the weight of the horse descends and is thrown upon them, but the nailing of the shoe at the heels prevents it. Thence the pain and lameness. Mr. Turner, of Regent-street, obviates this by a very simple method. He puts four or five nails in the shoe on the outside, and only two on the inside. There is then sufficient room for the natural expansion to take place, and the foot and

action of the horse are little or not at all changed. This is an admirable contrivance, and recourse should always be had to it.

The Navicular Joint Disease.—There are many horses with open and well-formed feet that are lame. In every motion of the foot, there is a great deal of action between the navicular bone and the flexor tendon which passes over it, in order to be inserted into the navicular bone. From concussion or violent motion, the membrane or the cartilage which covers the navicular bone is bruised or abraded, the horse becomes lame, and often continues so for life. This disease admits of remedy to a very considerable extent; no one, however, but a skilful veterinary surgeon is capable of successfully undertaking it.

Sand-crack is a division of the crust of the hoof from the upper part of it downward. It bespeaks brittleness of the foot, and often arises from a single false step. If the crack has not penetrated through the horn, it must, nevertheless, be pared fairly out, and generally a coating of pitch should be bound round the foot. If the crack has reached the quick, that *must* be done which ought to be done in every case—a skilful surgeon should be consulted, otherwise false quarter may ensue.

False quarter is a division of the ligament by which the crust is secreted. It is one of the varieties of sand-crack, and exceedingly difficult of cure.

Tread, or Over-reach, is a clumsy habit of setting one foot upon or bruising the other. It should immediately and carefully be attended to, or a bad case of *quittor* may ensue. Fomentations in the first instance, and, if much inflammation exists, poultices, to be followed by a mild styptic: tincture of myrrh, or Friar's balsam, will soon effect a cure.

Quittor is the formation of little pipes between the crust and the hoof, by means of which the purulent matter secreted from some wound beneath the crust makes its escape. The healing of this, and of every species of *prick* or *wound* in the sole or crust, is often exceedingly difficult.

Corns are said to exist when the posterior part of the foot between the external crust and the bars is unnaturally contracted and becomes inflamed. Corns are the consequence of continued and unnatural pressure. The cure of corns must be attempted by removing the cause—namely, the pressure.

Thrush is the consequence of filth and unnatural pressure on the frog. It is the cause and the effect of contraction, whether it is found in the heels of the fore feet or the hinder

ones. It is not difficult of cure when taken in time ; but when neglected, it often becomes a very serious matter. Cleanliness, fomentations, dressing the part with tincture of myrrh, and frequent applications of tar, are the best remedies.

Canker is the consequence of thrush, or, indeed, of almost every disease of the foot. It is attended by a greater or less separation of horn, which sometimes leaves the whole of the sole bare. This also, like the diseases of the foot generally, is difficult of cure.

Few things are more neglected, and yet of greater importance to the comfort and durability of the horse, than a proper system of *Shoeing*. It is necessary that the foot should be defended from the wear and tear of the roads; but that very defence too often entails on the animal a degree of injury and suffering scarcely credible. The shoe is fixed to the foot, and often interferes with and limits the beautiful functions of that organ, and thus causes much unnecessary inflammation and mischief.

The shoe of a healthy foot should offer a perfectly flat surface to the ground. The bearing or weight of the horse will then be diffused over the surface of the shoe, and there will be no injurious accumulation of it on different points. Too often, however, there is a convexity towards the inner edge, which causes an inequality of bearing, which breaks and destroys the crust, and pinches the sensible parts. Round the outer edge of the shoe, and extended over two-thirds of it on the lower surface, a groove is sunk, through which pass the nails for the fastening of the shoe. At first they somewhat project, but they are soon worn down to the level of the shoe, which, in the healthy foot, should not vary in thickness from the heel to the toe.

The width of the shoe will depend on that of the foot. The general rule is, that it should protect the sole from injury, and be as wide at the heel as the frog will permit.

The upper surface of the shoe should be differently formed : it should be flat along the upper end, the outer portion supporting the crust, or, in other words, the weight of the horse, and widest at the heel, so as to afford expansion of the bars and the heels. The inner portion of the shoe should be bevelled off, in order that, in the descent of the sole, that part of the foot may not be bruised. The owner of the horse should occasionally be present when the shoes are removed, and he will be too often surprised to see how far the smith, almost wilfully, deviates from the right construction of this apparently simple apparatus. The bevelled shoe is a little

more troublesome to make and to apply than that which is often used by the village smith; but it will be the owner's fault if his directions are not implicitly obeyed.

Even at the commencement of the operation of shoeing, the eye of the master or the trustworthy groom will be requisite. The shoe is often torn from the foot in a most violent and cruel way. Scarcely half the clenches are raised, when the smith seizes the shoe with his pincers, and forcibly wrenches it off. The shrinking of the horse will tell how much he suffers, and the fragments of the crust will also afford sufficient proofs of the mischief that has been done, especially when it is recollected that every nail-hole is enlarged by this brutal force, and the future safety of the shoe to a greater or less degree weakened; and pieces of the nail are sometimes left in the substance of the crust, which become the cause of future mischief.

In the paring out of the foot, also, there is frequently great mischief done. The formidable *butteris* is still often found in the smithy of the country farrier, although it is banished from the practice of every respectable operator. A worse evil, however, remains. By the *butteris* much of the sole was injuriously removed, and the foot was occasionally weakened, but the *drawing-knife* frequently left a portion of sole sufficient to destroy the elasticity of the foot, and to lay the foundation for contraction, corns, and permanent lameness. One object, then, of the looker-on is to ascertain the actual state of the foot. On the descent of the crust when the foot is placed on the ground, depends the elasticity and healthy state of the foot; and that may be satisfactorily determined by the yielding of the sole, although to a very slight degree, when it is strongly pressed upon with the thumb. The sole being pared out, the crust on each side may be lowered, but never reduced to a level with the sole; otherwise this portion will be exposed to continual injury.

The heels often suffer considerably from the carelessness or ignorance of the smith. The weight of the horse is not thrown equably on them, but considerably more on the inner than the outer quarter. The consequence of this is, that the inner heel is worn down more than the outer, and the foundation is laid for tenderness, corns, and ulceration. The smith is too often inattentive to this, and pares away an equal quantity of horn from the inner and outer heel, leaving the former weaker and lower, and less able to support the weight thrown upon it.

Mention has already been made of the use of the *bars* in

admitting and yet limiting to its proper extent the expansion of the foot. The smith in the majority of the country forges, and in too many of those that disgrace the metropolis, seems to have waged interminable war with these portions of the foot, and avails himself of every opportunity to pare them down, or perfectly to destroy them, forgetting, or never having learned, that the destruction of the bars necessarily leads to contraction, by removing the chief impediment to it.

The horn between the crust and the bar should be well pared out. Every one accustomed to horses must have observed the great relief that is given to the horse with corns when this angle is pared out; and yet, from some fatality, the smith rarely leaves it where nature placed it, but cuts away every portion of it.

The true function of the frog is easily understood: it gives security to the tread, and permits the expansion of the heels; but the smith, although these cases come before him every day, seems to be quite unaware of the course which he should pursue, and either leaves the frog almost untouched, and then it becomes bruised and injured, or he pares it away, so that it cannot come into contact with the ground, and consequently is not enabled to do its duty.

The owner of the horse will therefore find it his interest occasionally to visit the forge, and, guided by the simple principles which have been stated, he will seldom err in his opinion of what is going forward there. He should impress two principles deeply on his mind; that a great deal more depends on the paring out of the foot than in the construction of the shoe; and that few shoes, except they press upon the sole, or are made shamefully bad, will lame the horse, but that he may be very easily lamed by an ignorant or improper paring out of the foot.

Where the owner of the horse has sufficient influence with the smith, he will find it advisable always to have a few sets of shoes ready made. Much time will be saved, in case of accident, and there will not be, as is too often the case, the cutting, paring, and injuring of the foot, in order to make it fit the shoe. More injury than would be readily believed is done to the foot by contriving to get on it too small a shoe.

Clips are often necessary, in order more securely to fasten the shoe. They are little portions of the upper edge of the shoe hammered out, and turned up on the crust, and fitted in a little depression made in the crust. They prevent the shoe from being loosened or torn off, both in rapid action and heavy draught, and are therefore used on all heavy, and on

many light horses. They are sometimes placed on the side of the shoe, and at the beginning of the quarters, and on all horses that are accustomed to paw violently with their feet. Necessity alone, however, will justify their use.

The *calkin* is a prolongation and turning down of the shoe at the heel, enabling the animal to dig his foot more firmly into the ground, and with more advantage throw his weight into the collar; but it is an abominable and most injudicious practice to place the calkin on one side alone, as is too often done: an unequal direction and distribution of the weight and bearing of the foot is often given, which is necessarily productive of mischief. Few are the cases which will justify the use of calkins on the fore feet, or even on the hind feet, except they are of equal height on each foot; and few things are more injurious to the foot of the horse than wearing the same shoe more than three weeks or a month, let the work be heavy or light. The shoe should never be heavier than the work absolutely requires. This is acknowledged in the shoe of the hunter and the racer, and will tell in the case of every horse after a hard day's work. The calkin is required on the outside of the hind shoes of hunters, to prevent them from slipping at their leaps; but the inside of the shoe must be made of a compensating thickness, to afford an even bearing for the foot.

The *bar shoe* is indispensable in most large stables. It is a very simple contrivance, being nothing more than the continuation of the common shoe over the heels. The bearing of the shoe may thus be taken off from every weak and tender part of the foot, and be either thrown on some other point which is better able to bear the pressure, or diffused over the foot. It is useful in some cases of bad corns, which are thus protected from injury; in sand-crack, the pressure may be removed from either or both sides of the fissure; pumiced feet may be raised by this shoe above the possibility of injury; and in thrush and in canker not only is the weight thrown off the diseased part, but any kind of dressing may be easily retained on the sore. It is a shoe, however, that cannot be safely used for any considerable time, or, at least, it requires occasional or even frequent change, on account of its becoming gradually pressed down on the sore part beneath. Bar-shoes are not safe for use when much speed is required, and they are dangerous when frost is on the ground.

The *tip* is a very different kind of shoe. It reaches but half round the crust. It is used when the horse is at rest; and, the quarters of this shoe being unfettered, the contracted

foot is sometimes enabled to regain its natural open state. It has been tried for road-work, but, as might naturally be expected, it utterly failed when often or long used.

The *leather shoe* is principally useful when the foot has been injured or inflamed. It, to a considerable degree, breaks the shock, which would otherwise be painfully felt when the foot is put on the ground. It consists of a piece of leather or felt, about an inch in width, which is placed between the crust and the shoe; and this very materially obviates concussion. It must not, however, be long worn, for the nails cannot always be driven securely; there will be too much play upon them, and they will become loosened; also the holes which they accurately filled at first will be enlarged, and the crust will be broken away.

The sole is sometimes entirely covered with leather. This furnishes a temporary defence for the foot, but there is much insecurity of fastening; the tow, or other dressing introduced between the sole and the leather, is not always equably distributed, and frequently the stopping produces a scaly spongy horn, or gravel and dirt will gradually accumulate between the leather and the horn, and the foot will be considerably injured. *Gutta percha* is substituted with good effect.

One other shoe, the invention of Mr. Percival, must be mentioned—the *horse-sandal*. It consists of a simple apparatus sufficiently light even to be carried in the pocket, but is more frequently attached to the saddle, and which, on the loss of a shoe, can be applied to the foot in the space of a minute, and so securely attached to it that the sportsman may continue the chase to the end of the longest run. The same sandal has been repeatedly worn more than one hundred miles: it may be procured from any respectable harness-maker.

BOARING.

The quality of soundness involves several questions of no mean importance, especially with regard to those maladies which are capable of being transmitted. It is very apparent to those whose practice among horses is extensive, and who are best able to form accurate opinions, that spavins and curbs are less frequent than they were five-and-twenty years ago. This may fairly be attributed to the fact, that considerable circumspection has been exercised in avoiding such animals for breeding purposes as, possessing peculiar con-

formations in their hocks, would render their offspring predisposed to those defects. Blindness is certainly less prevalent than formerly. Superior management in the stable has evidently assisted in averting this evil: insufficiently ventilated, dark stables, with an accumulation of dung to generate ammonia, are fortunately out of fashion.

There is an impression that roaring is more frequent; and among race-horses it is not without foundation. As an hereditary complaint, it may certainly be traced to several sources—to horses whose progeny have, in many instances, given unequivocal testimony of the infirmity. When the fact is seriously considered, it is surprising that gentlemen of known talent, owners of valuable studs, liberal in every item of expense calculated to promote the success of their young racing stock, should ever breed from sires or dams known to entail this malady on their progeny. A veterinary surgeon, of great ability and observation, has stated that every stallion, when consigned to the stud, becomes a roarer. It is a startling assertion, and induced me to investigate the fact very minutely. The result does not corroborate the statement to the full extent of the declaration, although I discovered sufficient to lead me to the conviction that it is a very prevalent affliction. I must here, however, introduce a reserving clause, arising from the difficulty which exists of positively deciding upon every case, which I shall enter upon more minutely as I proceed. In contradiction to the assertion of the professional, I must observe that at various times I had two hunters, which were used for stud purposes during the summer; one of them continued in my possession three seasons, the other two: most assuredly they were not either of them roarers. This might have been, and very probably was, prevented by the work they performed during the hunting season; for it is quite certain that very many stallions, especially those which belong to private breeding establishments, and are kept principally for the use of those establishments, do not enjoy that exercise which is absolutely necessary for the maintenance of their health. The country stallion, which travels from fair to fair, and from market to market, is infinitely more favourably treated in this respect, than his more highly distinguished brother who presides over a private and choice seraglio.

Roaring may be divided into two classes: that which must be pronounced, in opposition to all theory, as decidedly hereditary; and that which is produced in individuals in consequence of catarrhal disorders, strangles, influenza, or

any other temporary cause which establishes inflammation, and a consequent thickening in the mucous membrane lining the trachea, or parts adjacent, which are the seats of the disorder. Some persons are sceptical respecting the hereditary transmission of roaring; for which little surprise can be entertained, when the difficulties which enshroud numerous equivocal indications are enumerated. To unravel the mystery, the primary cause must be ascertained; for it would be exceeding the limits of truth and experience to say that because a horse is a roarer himself, he will transmit it to his stock. Certain conformations, or rather malformations, of the limbs,—such as the legs, the hocks, and the feet,—are often transmitted from the parent to the offspring; from which splints, curbs, spavins, navicular diseases, and other infirmities, have their origin; and these are admitted in the category of hereditary complaints: yet it cannot be accepted as a rule without exception, that all the produce of malformed animals shall inherit the imperfections of their parents. Upon the principle of malformation in the parts immediately or indirectly connected with the organs of respiration, roaring must undoubtedly come within the definition of an hereditary cause. But when a thickening takes place of the mucous membrane lining the parts which are the seat of the disorder, or ossification of the cartilages of the windpipe, in consequence of inflammation, resulting from bronchitis, influenza, colds, or such-like accidental occurrences, providing no malformation of the parts previously existed, roaring cannot with propriety be denominated hereditary. The difficulty in such cases is to determine whether that malformation of parts does exist. To assign to such accidental causes as the latter the aspersions of hereditary transmission, is not consonant with reason.

There are as many degrees or intonations of roaring, as there are notes on the gamut; and those notes ascend from piano to forte. This renders it difficult in some slight cases to decide positively whether a horse is a roarer or not; and good judges may be mistaken. The state of the animal very frequently occasions an impediment to an accurate decision: if he be in very plethoric condition, he will not unfrequently give slight indications of roaring; but when he is divested of that superabundance of fat, all the disagreeable symptoms disappear. The usual test of startling the animal, is by no means an infallible criterion, neither is the stethoscope in all cases to be relied upon. There is but one positive

mode of determining the question: the animal being in a proper condition, he must be ridden and tried in all his paces. With stallions this proof is not often practicable; and unless they are badly affected, it is often impossible to prove that they are roarers. There is no point upon which the owner of such a horse is so tenacious as that of an accusation that his favourite is a roarer. Tell the proprietor that his horse's legs are bad, insinuate that he broke down in consequence, he will receive your remark with complacency; tell him that his horse's hocks are bad, and point out to him an incipient spavin, or an unequivocal curb, he will receive your objection with indifference; point out to him a multitude of unsymmetrical proportions, he will listen to you with calmness; but only intimate to him that you think his horse is a roarer, and he will roar in your ear a challenge of defiance in proof of your allusion.

Large horses certainly have a greater tendency to become roarers than smaller ones, and irritable-tempered ones more frequently than those of a phlegmatic disposition. Several of the largest stallions might be enumerated as being predisposed to entail this malady on their issue. These are certainly valid reasons for not giving a preference to horses of large size, although public opinion predominates in their favour. Stallions are more subject to the complaint than geldings, and geldings more so than mares. Compactly-formed horses of moderate size seldom indulge their owners with music. It is very difficult to assign any reason for this; but it appears that there is a greater constitutional disposition in stallions to inflammation about the respiratory organs than there is in mares or geldings, and that inflammation, resulting in deposits of lymph and ossification of the cartilages, produces the disorder. This phenomenon may be explained in consequence of the sympathy which is well known to exist between various parts of the body.

A change in the atmosphere is a very frequent cause of inflammation in the respiratory organs, and severe frosts, such as we experienced during the winter of 1853 and 1854, are very likely to produce it. In order to preserve the blooming condition of their horses' coats, it is a common practice with grooms to keep the stables as warm as possible when a frost sets in; but it is a most dangerous observance. Of the importance of keeping horses warm in their bodies, there cannot be a question; but that is better regulated by extra clothing. If the atmosphere of the stable be raised to a temperature greatly exceeding that of the open air, the

horses, when taken out to exercise or work, are liable to serious consequences, from the great increase in the amount of oxygen which rushes through the respiratory organs in the act of inspiration. The quantity of oxygen is regulated by the temperature of the atmosphere; and there are few persons who have not experienced the inconvenience attendant upon passing from an over-heated ball-room into the open air; and they generally take the precaution of adopting additional clothing. The case of the horse is precisely analogous.

Although a very liberal premium has been offered by a nobleman as an additional stimulus to the profession, the cure for roaring has not yet been discovered. When it proceeds from malformation, it is impossible; or if the cartilages of the windpipe become ossified, no remedy can be found to reach those parts. An extensive deposit of lymph having taken place in the mucous membranes with which the respiratory organs are defended, comes within the same category. A strong stimulus applied to the sinews, joints, or muscles, in the event of lameness, may, and frequently does, impart a wonderful effect; but it is a different affair when internal organs, such as those of respiration, are disordered: those parts cannot be brought into immediate contact with any application. When a horse is affected with inflammation about those parts which are the seat of the disorder, if it be vigorously attacked in its incipient state with the usual stimulating preparations, providing there is no malformation to contend against, the malady may in very many cases be prevented; and a vast number of cases of confirmed roaring are to be attributed to neglect or delay at the important crisis of commencement. Those who would avoid breeding roarers must avoid breeding from parents whose progeny has evinced a predisposition to the complaint. So far every breeder has the remedy in his own hand; but with the utmost caution, all living creatures are subject to disorders; and if the results are unfortunate, in defiance of the most skilful treatment, breeders must console themselves with the reflection that their disappointments are the decrees of fate.

CONCLUSION.

A judicious selection of the most eligible parents for the purpose of breeding, combined with careful attention to the method of rearing and treatment of the offspring, will not fail to afford ample remuneration to those who embark in the

speculation ; and the country will abound with animals of the **m**ost useful classes, possessing sound and enduring constitutions. In order to render the arguments contained in this **l**ittle volume impressive, it has been necessary to trace the **p**rogress of racing and breeding horses, and to show that the **h**igher classes of horses which we now possess have been **g**radually improving. The insufficiency of supply compared with the demand, for those classes of horses which are **r**equired for daily use, has not arisen from defects or deficiency in the material. There is one paramount object in view, of supreme importance to every Englishman,—that of producing an adequate supply for the purpose of carrying our **b**rave soldiers in the field of battle. Although a hope may **b**e entertained that the blessings of peace will be speedily restored to us, a lesson has been afforded to the country, of the necessity for being always prepared for war ; and there is **n**o department in which this policy is more imperative than **t**hat of our CAVALRY RESOURCES.



APPENDIX.

THE following formulæ may be said to contain most of the remedies necessary for the use of the amateur: when disease prevails, the safest plan is to call in the assistance of a veterinary practitioner.

When calomel or emetic tartar is given for the expulsion of worms, it should be mixed in a small portion of bran mash, after fasting the animal five or six hours: two doses given at similar intervals will be most effective. They must be worked off with linseed-oil or aloes, after an equivalent lapse of time; and as alkalies neutralize the effects of either of those medicines, soap must be excluded, if the form of ball is preferred.

As an external stimulating application for the throat in cases of inflammation arising from cold or other causes, common mustard, mixed with water as for the table, is an excellent remedy, and is equal, if not superior, to any of the more complicated nostrums.

When cooling remedies are required to the legs, cold water is the best. The introduction of nitre and sal-ammoniac will increase the evaporation; but great care is requisite to renew such medicated lotions very frequently; because, when the refrigerating process is over, they become stimulants: thus, on ordinary occasions, cold water constantly applied with very loose linen bandages is to be preferred.

Table showing the proportions of medicines to be given to horses at various ages:—

	Calomel or Tartarised Antimony. Grains.		Linseed Oil. Ounces.		Aloes. Drachms.	
To foals	10		4	to 6	$\frac{1}{2}$	to $\frac{3}{4}$
Yearlings	15	to 20	6	8	1	$1\frac{1}{2}$
Two years old ...	20	25	8	12	2	$2\frac{1}{2}$
Three years old	25	30	12	15	$2\frac{1}{2}$	$3\frac{1}{2}$
Four years old } and upwards }	30	60	1	2 pts.	4	6

Common Aloetic Purgative.

Aloes finely powdered...	4 drachms.
Hard soap	} each..... 2 drachms.
Ginger.....	

Mix and form a ball, varying the proportions according to the age and constitution of the horse.

Aloetic Purgative without Soap.

Aloes broken in pieces	4 drachms.
Olive oil or lard	1 drachm.
Ginger in powder	2 drachms.
Treacle	1½ drachm.

The aloes and oil, or lard, must be melted in a jar placed in a saucepan over the fire; and when melted, the ginger and treacle are added. The aloes must not be boiled longer than to effect their solution.

Aloetic Alteratives.

Aloes in fine powder ...	2 drachms.
Nitre.....	2 drachms.
Soap	2 drachms.

Mix and form one ball. To be given daily till a slight action of the bowels is produced.

Antimonial Alterative.

Sulphur	} each 2 to 3 drachms.
Sulphuret of antimony	

Treacle to form a ball. One of which may be given four five, or six days in succession.

The preparation necessary before giving aloetic purge should be very scrupulously attended to. Bran mashes must be liberally substituted for hay during the twenty-four hours previous to giving the ball; and the horse requires to be walked out during its operation.

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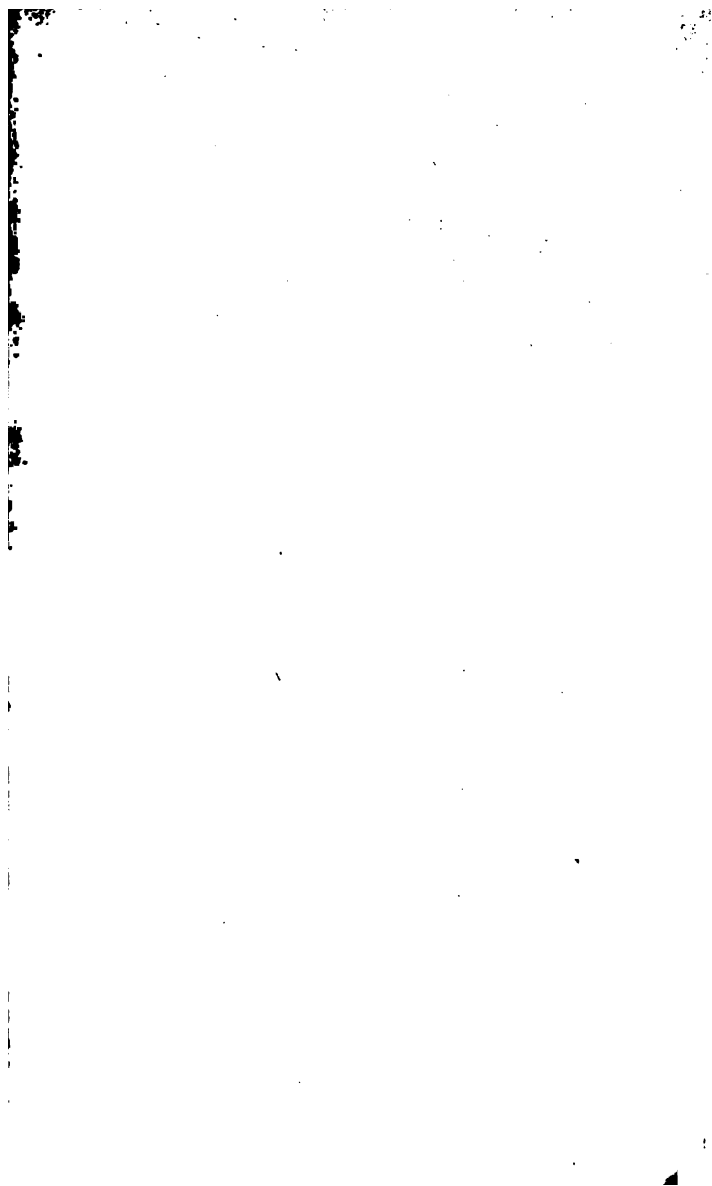
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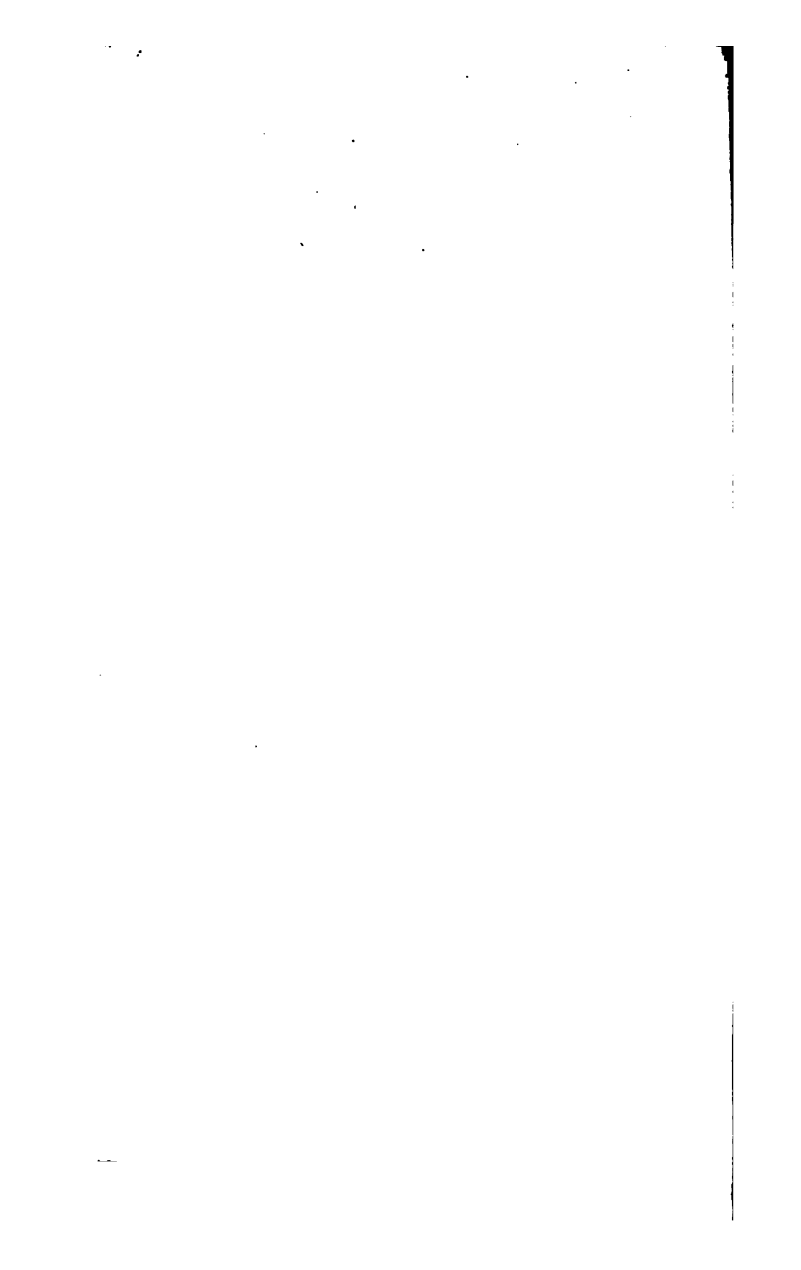


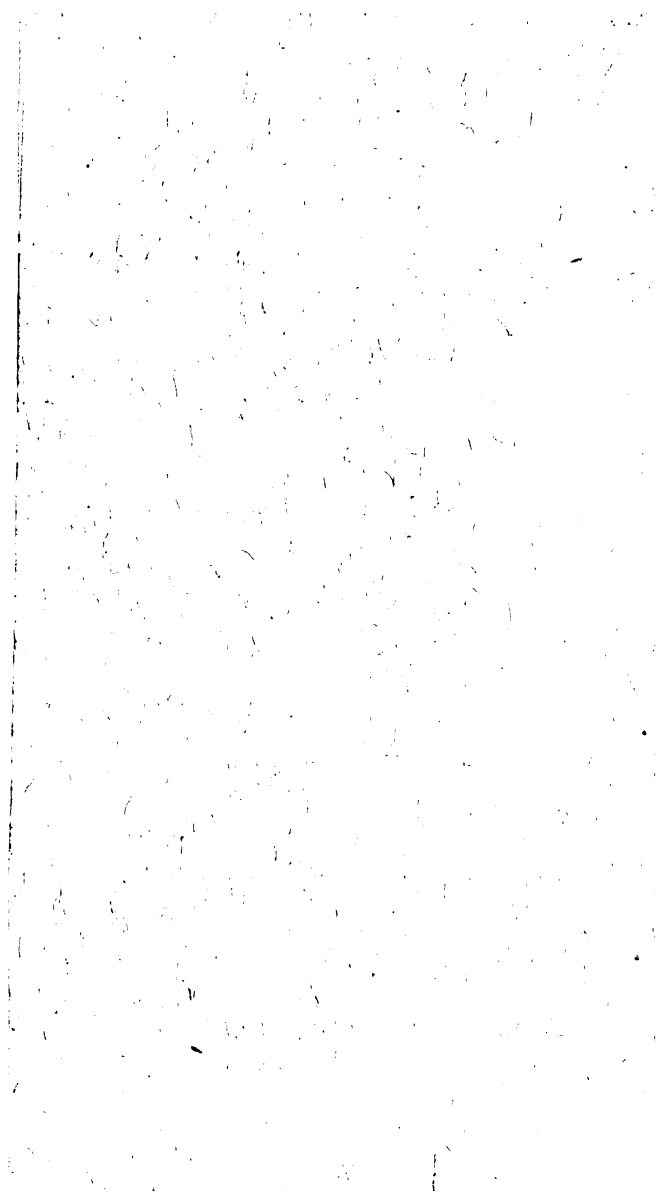
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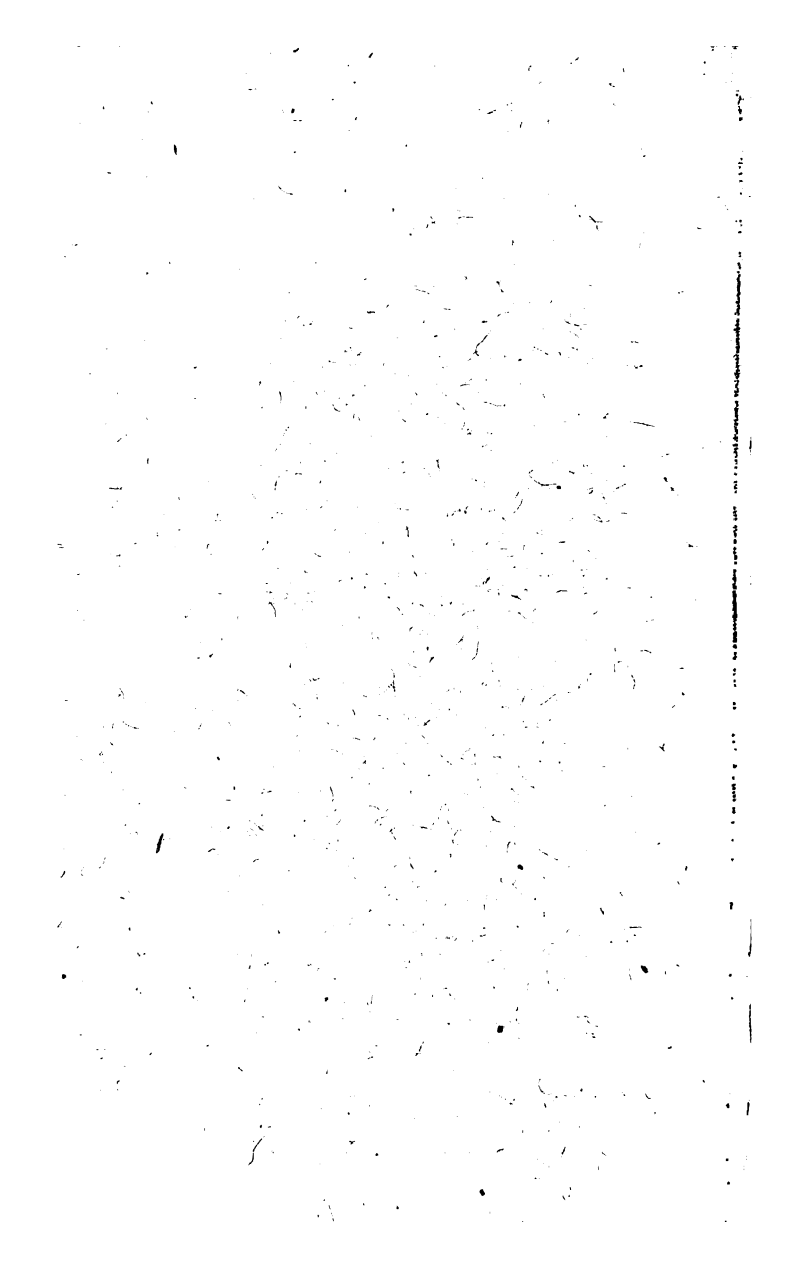
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